REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

HEALTH

OF THE

CITY OF BIRMINGHAM

FOR THE YEAR **1910.**

BIRMINGHAM:
HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

HEALTH

OF THE

CITY OF BIRMINGHAM

FOR THE YEAR **1910.**

BIRMINGHAM:
HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

Health Department,

The Council House, Birmingham,

July 5th, 1911.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

Gentlemen,

The preliminary uncorrected Census figures for 1911 were not published until after this report was written, and therefore the estimate of the population of Birmingham which is used all through the report is that which was calculated for the year 1910 by the Registrar-General. His calculation is now shown by the Census to be fallacious to the extent of about 45,000 persons. I think it preferable, however, to retain the Registrar-General's estimate rather than to form a fresh estimate based upon the preliminary Census figures, which are incomplete and open to revision.

Despite the fact that there is an error in the estimate of the population, the year 1910 establishes a record for general healthiness. On the whole, fewer people have died per 1,000 of the population than ever before in the history of Birmingham, and the preventable diseases have declined in a marked and satisfactory manner. I believe it is quite correct to say that Birmingham is shown to be the healthiest large manufacturing city in Europe where a strictly accurate comparison can be made.

For forty or fifty years our statistics have been increasingly fallacious, in that they represent all the unhealthy portion of Birmingham, and only part of the healthy. The extension of the City boundaries, work which occupied so much time during 1910, will put Birmingham in its proper place in the future, as

not only a very large and populous City, but, as I have said above, the healthiest of the large manufacturing towns in this country. The mortality rate for 1910 in Greater Birmingham, based on the corrected population, was 13·1 per 1,000, as compared with 17·2 per 1,000 in Glasgow, 15·8 in Edinburgh, 16·2 in Manchester, 18·3 in Liverpool, and 14·2 in Sheffield.

While the record for this district is one of the best that I know of for a manufacturing town, one cannot but see that the mere size of the City shuts in, in the central districts, large numbers of persons in areas where clean air, clean surroundings, and clean houses are practically impossible. In such areas we still have mortality rates of 21 and 22 per 1,000, with enormously high and expensive sickness rates.

To effectively deal with these areas, and particularly with that part of the population amenable to betterment, the policy which was originated in Birmingham of Housing and Town Planning is, I believe, thoroughly sound, and will lead eventually to good results. I have watched very carefully during the past year the progress of the movement known as Town Planning, and would suggest that the greatest care should be taken in our City to make it conduce to the common good rather than to those architectural and æsthetic results which will benefit mainly the better artisan classes, who can and do look after themselves. Attention has up to now been directed to the laying out of new roads and limiting the number of houses in suburban areas. This is, of course, essential, but equally important for the prosperity of the City, and therefore for its communal welfare, is, firstly, the giving of business facilities to manufacturers and others, on whom the prosperity of the town depends; and, secondly, the getting rid of areas where squalid dwellings are dovetailed in between smoky and otherwise objectionable works. There seems to me to be no insuperable difficulty to prevent all such works being removed in time from the precincts of the areas occupied by dwellings.

A great impetus has been given to anti-tubercular work in Birmingham by the opening of Yardley Road Sanatorium in October last. Immediately it became known that something could be done for the consumptive there was a general stampede to get admission, and the number of notified cases increased

correspondingly. Each patient, after treatment for six weeks in the Sanatorium, goes home imbued with two main ideas: (1) that the disease is an infectious one, and that he must take precautions to prevent his family becoming infected; and (2) that the disease is one that is mainly due to living under unwholesome conditions. Many of the patients have erected shelters in their gardens, and are carrying on the treatment. There has been a really wonderful awakening to the possibilities of the prevention of consumption, the result of which doubtless will be noticeable in a few years' time.

The Medical Inspection of School Children is undertaken by the Education Department, the Health Department co-operating where possible. Up to the end of the year no scheme of treatment of children found to be defective had been approved. If this matter is taken up in Birmingham in as thorough a manner as other subjects, a considerable amount of good to the public health will accrue.

The following report very imperfectly details the work done during the year. It is largely statistical rather than descriptive.

I am, Gentlemen,

Your obedient servant,

JOHN ROBERTSON, M.D., B.Sc.

POPULATION.

Population.

The Registrar-General estimated that the population of Birmingham on June 30th, 1910, was 570,113 persons —an increase of 6,484 over that of the previous year. This estimate is based on the assumption that the population of Birmingham has been increasing at a uniform rate since 1891. In order that there may not be any confusion resulting from various estimates, the Registrar-General's has been used all through this report.

The above estimate is probably too large by about 35,000. Every year the Overseers supply the Health Department with the number of occupied houses in the City, and assuming that the average number of persons occupying the houses is the same as on the occasion of the taking of the 1901 Census, then the population of the City on June 30th, 1910, would be about 535,000, or 35,000 less than the estimate of the Registrar-General.

It is probable that even this estimate, based on the number of occupied houses, is a little too large, as the average number of persons per house at each of the recent Censuses has shown a decline, and therefore to a small extent there may be an error in this respect.

The over-estimation of the population to the extent of 35,000 would produce an error of ·8 per 1,000 in the death-rate of the City, so that the death-rate for the year recorded in the following pages would be 14·5 per 1,000 instead of 13·7. Similarly, the birth-rate, which was 26·2 per 1,000, would be 27·8.

Occupied Houses.

For the purposes of continuity of record the table on page 7 has again been inserted, showing the number of occupied houses in each Ward of the City since 1898.

Ward Populations and Areas.

The following table of Ward populations has been calculated on the assumption that the average number of persons per house remains the same as at the Census of 1901.

WARD.	Area in Acres.	Population 1910.	Persons per Acre.
Rotton Park	1,233	49,659	40·3
All Saints'	532	43,903	82·5
Ladywood	249	24,369	97·9
St. Paul's	264	13,901	52·7
St. George's	120	19,139	159·5
St. Stephen's	169	21,670	128·2
St Mary's	184	12,569	68·3
St. Bartholomew's	313	22,303	71·3
Market Hall	229	8,409	36·7
St. Thomas's	179	17,106	95·6
St. Martin's	468	22,835	48·8
Edgbaston and Harborne ...	4,245	34,699	8·2
Deritend	279	21,769	78·0
Bordesley	1,387	62,891	45·3
Duddeston	299	21,739	72·7
Nechells	512	32,251	63·0
Balsall Heath	463	40,309	87·1
Saltley	2,352	61,043	26·0

OCCUPIED HOUSES.

Ward.	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Increase or Decrease in 15 years, 1896 to 1910.
Rotton Park ...	8739	9079	9442	10199	10041	10215	10383	10573	10761	11065	11028	10767	10819	+ 2465
All Saints' ...	8075	8549	9028	8847	8939	8996	9195	9024	9084	9393	9311	9243	9381	+ 1554
Ladywood ...	5605	5639	5645	5627	5634	5662	5669	5570	5539	5564	5561	5438	5464	- 239
St. Paul's ...	3688	3650	3630	3187	3316	3318	3341	3314	3217	3088	3009	2825	2964	- 798
St. George's ...	4585	4670	4632	4572	4623	4618	4621	4604	4627	4543	4401	4240	4330	- 247
St. Stephen's ...	4864	4913	4882	4963	4952	4962	4930	4861	4809	4859	4683	4598	4524	- 225
St. Mary's ...	3205	3230	3237	3308	3325	3378	3297	3233	2888	2783	2480	2569	2613	- 561
St. Barth'lmew's	5119	5315	5326	5297	5301	5241	5089	4884	4865	4545	4489	4347	4399	- 796
Market Hall ...	2362	2372	2335	2109	2094	2075	2005	1980	2068	1954	1929	1920	1840	- 589
St. Thomas's ...	4030	4088	4170	4201	4067	4061	4106	4062	3958	3799	3816	3775	3743	- 307
St. Martin's ...	5170	5216	5260	5220	5250	5233	5331	5373	5213	5254	5109	4946	4975	- 175
Edgb'n & Harb'e	6056	6289	6373	6386	6473	6496	6491	6432	6801	6891	6825	6868	7199	+ 1465
Deritend ...	5415	5370	5248	5232	5194	5101	5118	5026	5036	4911	4819	4632	4612	- 657
Bordesley ...	10869	11179	11514	11703	11907	12168	11905	12519	12809	13069	13280	13277	13467	+ 4055
Duddeston ...	5240	5082	5132	5060	5026	4977	4958	4946	4847	4873	4688	4588	4596	- 199
Nechells ..	6869	7036	7021	7012	6955	7023	6947	6841	7020	6732	6821	6712	6719	- 38
Balsall Heath ...	8419	8547	8650	8700	8750	8825	9000	9061	9183	9029	9027	9030	9038	+ 838
Saltley	6764	7242	8053	8340	8715	8960	9223	9333	10019	10557	10634	10959	12040	+ 6320
City ...	105074	107466	109578	109963	110562	111309	111609	111636	112744	112909	111910	110734	112723	+11866
Increase or Decrease on previous year ...	+ 2376	+ 2392	+ 2112	+ 385	+ 599	+ 747	+ 300	+ 27	+ 1108	+ 165	- 999	- 1176	+ 1989	
Percentage ...	+ 2·32	+ 2·28	+ 1·97	+ 0·35	+ 0·55	+ 0·68	+ 0·27	+ 0·02	+ 0·99	+ 0·15	- 0·88	- 1·05	+ 1·80	

During the fifteen years 1896-1910 an increase of population is shown in six of the Wards, and a decrease in the remaining twelve. In the majority of instances where there is a decrease it is relatively a small one, whereas the increases in the remaining Wards are usually very large. In no less an area than 3,270 acres, situated in the central part of the City, there has been a decrease in population during these fifteen years. This represents about one-quarter of the whole area of Birmingham. One might safely add that outside of this central area there is a zone equal to another fourth of the area of Birmingham in which the population is at present stationary. The increase in population during recent years has been in All Saints, Rotton Park, and Edgbaston and Harborne on the western side of the City, and in Balsall Heath, Bordesley, and Saltley on the south and east.

From the point of view of the public health this migration of the people from the centre to the healthier suburban areas is one which deserves to be encouraged. It is this desire on the part of the population to occupy healthy districts which has done more than anything else to make the mortality returns for Greater Birmingham what they apparently are to-day, viz., the best to be found in any manufacturing city.

Detailed statements as to the populations in different districts in the City are being left over at present pending the issue of the Census figures.

MARRIAGES.

Marriage Rate

The number of marriages recorded during 1910 was 4,842—an increase of 333 on the figure for 1909. The number of persons married is equal to a rate of 17·0 per 1,000. The fluctuations in the marriage-rate during the past ten years are shown in the statement below:—

	Marriage Rate per 1,000.
1901	18·8
1902	19·1
1903	18·4
1904	17·2
1905	17·5
1906	18·1
1907	18·7
1908	16·9
1909	16·0
1910	17·0

BIRTHS.

There were 14,898 births recorded during the year, as compared with 14,985 in 1909, 16,141 in 1908, and 15,619 in 1907. The birth-rate for the year was 26·2 per 1,000. This is the lowest yet recorded, as will be seen from the following figures:— Birth-rate.

	Birmingham.	England and Wales.
1871—1875	40·4	35·5
1876—1880	41·0	35·3
1881—1885	36·1	33·5
1886—1890	32·9	31·4
1891—1895	32·7	30·5
1896—1900	33·3	29·3
1901—1905	31·3	21 1
1906	29·3	27 1
1907	28·3	26·3
1908	28·4	26·5
1909	26·7	25·6
1910	26·2	24·8

The birth-rate in England and Wales was also a low one. In the towns having a population of over 200,000 the birth-rate during 1910 was as follows:— Birth-rate in large towns.

	Birth-rate per 1,000.
London	23·6
Liverpool	30·1
Manchester	27·1
Birmingham	26·2
Leeds	22·2
Sheffield	26·5
Bristol	21·7
West Ham	26·4
Bradford	18·6
Newcastle	26·4
Hull	28·6
Nottingham	24·8
Leicester	21·4
Stoke-on-Trent	30·8
Salford	26·7
Portsmouth	26·7

Birth-rates in wards.

The birth-rates in the different Wards of the City during the last six years are set out below:—

BIRTH-RATES IN WARDS.

	1905.	1906.	1907.	1908.	1909.	1910.
Rotton Park ...	28·3	28·7	25·2	27·6	26·3	25·8
All Saints' ...	32·1	31·6	30·8	31·7	29·3	30·4
Ladywood ...	28·9	30·5	29·4	30·5	29·4	28·6
St. Paul's ...	26·1	26·1	24·5	26·5	23·6	23·2
St. George's ...	33·9	34·9	34·3	35·8	36·6	34·3
St. Stephen's ...	34·8	36·9	35·0	35·5	35·0	35·4
St. Mary's ...	27·2	29·9	27·6	32·7	29·2	27·6
St. Bartholomew's	34·6	33·8	35·8	34·0	36·2	31·7
Market Hall ...	23·8	19·6	16·9	16·3	16·4	15·2
St. Thomas' ...	29·5	30·8	32·8	32·6	31·3	30·5
St. Martin's ...	24·4	26·0	25·9	26·4	25·6	23·1
Edgbaston and Harborne ...	19·7	18·6	19·2	20·6	18·4	19·5
Deritend ...	34·9	34·8	34·3	35·6	33·6	33·2
Bordesley ...	27·5	26·6	27·2	26·4	25·1	24·7
Duddeston ...	33·8	37·3	34·5	36·8	32·3	33·7
Nechells ...	36·3	36·1	36·4	38·1	34·5	34·8
Balsall Heath ...	27·0	24·3	25·8	26·9	24·4	23·9
Saltley ...	32·2	32·6	29·3	31·7	28·4	26·3

The low rate in Market Hall is due to the fact that this Ward has but a small residential population, among whom there are many caretakers without families and a considerable number of unmarried shop assistants.

NOTIFICATION OF BIRTHS ACT, 1907.

Notification of births.

This Act came into operation on March 1st, 1908. It places the duty on various persons of notifying to the Medical Officer of Health the birth of any child born in the City. It is an adoptive Act, and in many districts it has not been adopted on account of the supposed difficulties in getting its provisions carried out. In Birmingham, however, none of these have arisen, and although the working of the Act is not by any means perfect, yet no less than 93 per cent. of all the infants born are notified to the Medical Officer of Health immediately after the birth takes place. During the past year 14,262 births were thus reported, of which 404 were still-births. In the Annual Report for 1909 the method of dealing with defaulters was described.

The Act continues to be of great value in enabling the Health Visitors to visit houses in the poorest neighbourhoods of the town soon after a birth has taken place, and

therefore at a time when skilled advice is most effective. The actual number of first visits paid to the babies whose births were notified under this Act in 1910 was 11,738.

DEATHS.

The deaths of 7,777 persons were recorded during the year. This number gives a death-rate of 13·7 per 1,000 if the Registrar-General's estimate of the population is accepted, or of 14·5 per 1,000 if the Medical Officer's estimate be taken. In either case this rate is by far the lowest ever recorded for the City. The rate for each year and the averages for five-yearly periods are shown below :— Death-rate.

	Death-rate per 1,000.	
1871	24·9	
1872	23·1	
1873	24·8	Average 25·2
1874	26·8	
1875	26·3	
1876	22·4	
1877	23·9	
1878	25·2	Average 22·8
1879	21·8	
1880	20·5	
1881	19·8	
1882	20·8	
1883	21·4	Average 20·7
1884	21·6	
1885	19·8	
1886	20·5	
1887	20·4	
1888	18·6	Average 20·2
1889	19·7	
1890	22·0	
1891	21·7	
1892	20·0	
1893	21·5	Average 20·3
1894	18·2	
1895	19·9	
1896	20·4	
1897	21·1	
1898	19·5	Average 20·5
1899	20·5	
1900	21·0	
1901	19·9	
1902	18·0	
1903	17·2	Average 18·1
1904	19·3	
1905	16·1	
1906	16·8	
1907	16·1	
1908	15·9	Average 15·6
1909	15·5	
1910	13·7	

Death-rate in England and Wales.

Comparative figures are given in the following table, which are somewhat important, as they indicate how closely the rate in Birmingham now approximates to that for England and Wales, which, of course, includes all the rural areas:—

	Birmingham.	England and Wales.
1871—1875	25·2	22·0
1876—1880	22·8	20·8
1881—1885	20·7	19·4
1886—1890	20·2	18·9
1891—1895	20·3	18·7
1896—1900	20·5	17·7
1901—1905	18·1	16·0
1906	16·8	15·4
1907	16·1	15·0
1908	15·9	14·7
1909 . .	15·5	14·5
1910	13·7	13·4

Death-rates in large towns.

In the next table will be found the death-rates in the towns having over 200,000 inhabitants:—

DEATH-RATES IN LARGE TOWNS.

	1905.	1906.	1907.	1908.	1909.	Average 1905-1909.	1910.
London ...	15·1	15·1	14·6	13·8	14·0	*14·5*	**12·7**
Liverpool ...	19·6	20·6	19·0	19·2	19·0	*19·5*	**17·7**
Manchester	18·0	19·2	18·1	18·2	17·9	*18·3*	**16·1**
Birmingham	16·2	16·8	16·2	15·9	15·4	*16·1*	**13·7**
Leeds ...	15·2	15·6	15·3	15·3	14·1	*15·1*	**13·7**
Sheffield ...	17·0	16·4	17·1	15·8	15·1	*16·3*	**13·4**
Bristol ...	14·6	14·5	13·2	13·6	12·7	*13·7*	**11·5**
West Ham	14·8	15·7	14·6	13·9	14·0	*14·6*	**11·7**
Bradford ...	15·2	16·1	14·8	15·5	14·5	*15·2*	**14·0**
Newcastle ...	16·8	17·1	15·9	16·0	14·8	*16·1*	**13·9**
Hull ...	16·3	16·9	16·1	16·2	14·9	*16·1*	**15·2**
Nottingham	16·5	16·1	17·5	15·2	16·3	*16·3*	**14·2**
Leicester ...	13·3	14·3	12·7	13·0	12·9	*13·2*	**11·3**
Stoke-on-Trt.	...	...	...	...	...	...	**16·0**
Salford ...	16·9	18·3	17·7	17·8	18·0	*17·7*	**15·1**
Portsmouth	16·6	14·9	16·0	13·8	14·2	*15·1*	**13·8**

Corrected death-rates.

To make the death-rates of various towns strictly comparable, it is desirable to correct them by obviating any discrepancy due to the difference in the age and sex distribution of their populations. Obviously a population which contains a large number of babies and a large number of old people must have a higher mortality than one containing only young adults. Similarly, it is known that the mortality amongst females at most ages is less than that amongst males, and this may seriously affect the death-rate in a particular town. It is easily possible to make a correction by which these two factors shall be taken into consideration. When this is done the mortality-rate for Birmingham is raised from 13·7 per

1,000 to 14·7 per 1,000. The crude mortality-rates in the great towns enumerated above, together with the corrected death-rates, are given below:— Corrected death-rates—*(continued)*

	Crude Death-rate.		Corrected Death-rate.	
	Average 1905-9.	1910.	Average 1905-9.	1910.
Bristol ...	13·69	11·54	14·06	11·86
Leicester ...	13·21	11·29	14·10	12·05
West Ham ...	14·61	11·69	15·63	12·50
London ...	14·53	12·71	15·27	13·36
Portsmouth	15·11	13·78	15·51	14·15
Sheffield ...	16·28	13·41	17·55	14·45
Birmingham	16·09	13·67	17·31	14·71
Leeds ...	15·10	13·67	16·47	14·91
Newcastle ...	16·14	13·85	17·39	14.92
Nottingham ...	16·32	14·19	17·19	14·95
Bradford ...	15·23	14·02	16·83	15·50
Hull ...	16·08	15·25	16·48	15·63
Salford ...	17·74	15·15	19·60	16·74
Stoke-on-Trent	...	15·97	...	17·23
Manchester ...	18·28	16·05	20·35	17·87
Liverpool ...	19·50	17·75	20·87	19·00

The death-rate in each of the municipal Wards is set out below:— Death-rates in wards.

DEATH-RATES IN WARDS.

Wards.	Death-rate per 1000. 1906.	1907.	1908.	1909.	1910.	Average 1906-10.
Rotton Park ...	13·5	13·3	12·7	13·3	**11·2**	12·8
All Saints' ...	17·1	14·1	15·6	14·1	**13·2**	14·8
Ladywood ...	17·0	15·7	15·9	16·9	**14·6**	16·0
St. Paul's... ...	18·6	17·1	17·9	17·9	**15·4**	17·4
St. George's ...	19·8	19·3	22·1	20·6	**15·7**	19·5
St. Stephen's ...	23·4	21·2	23·1	23·2	**18·7**	21·9
St. Mary's ...	22·8	21·4	25·9	25·2	**21·3**	23·3
St. Bartholomew's	23·1	23·6	23·8	23·3	**21·0**	23·0
Market Hall ...	16·1	17·1	16·0	14·6	**11·2**	15·0
St. Thomas' ...	20·8	18·3	17·8	18·7	**16·8**	18·5
St. Martin's ...	17·6	16·4	16·0	16·8	**14·2**	16·2
Edgbas. & Harborne	11·7	11·9	11·0	10·9	**10·5**	11·2
Deritend	22·6	21·3	20·8	20·3	**19·8**	21·0
Bordesley ...	13·4	12·9	12·5	11·9	**11·1**	12·4
Duddeston ...	18·7	20·7	20·8	20·3	**17·0**	19·5
Nechells	19·9	20·5	20·6	19·2	**17·4**	19·5
Balsall Heath ...	12·3	13·6	13·7	14·0	**11·8**	13·1
Saltley	13·4	13·0	13·6	12·3	**11·0**	12·7
Whole City ...	16·8	16·1	15·9	15·5	**13·7**	15·6

For many years past it has been noted that there are several areas in Birmingham in which the death-rate is less than half what it is in other areas. Much more energy, time, and expense has been devoted by the Health Department to these areas with high mortality than to those with little mortality. It may be said also that more private charity and social service are expended there than elsewhere. Yet the total result is by no means satisfactory.

Death-rates in wards—(*continued*).

The map which is attached indicates the areas with high or low mortality during 1910. The darkest coloured Wards are those with the highest death-rate, and they are also those in which poverty is in evidence in its worst forms. To a large extent there live in these Wards the inefficient and unfortunate members of a population of nearly one million persons. The ignorance in these areas of the most elementary laws of health, and the carelessness displayed in regard to health, show pretty clearly that if this City is to gradually rid itself of any considerable proportion of these unfortunate people it is necessary to devote much more time and attention to the training of the young in methods of healthy living than has been done up to the present.

The time, too, appears to be approaching when a much higher standard of personal cleanliness might reasonably be demanded from citizens as a duty to the City than is done at the present time. Men and women with filthy clothing, often in a very verminous condition, and living in houses in which dirt is everywhere prevalent, are tolerated and even pitied. Practically there is no law to punish such a person, and yet all recognise that the elementary principle on which nearly every advance in public health has been made is on the lines of greater cleanliness. If persons who are so neglectful as to allow filth to exist were punished in one way or another, it is almost certain that some of the mortality in these areas would be reduced, and possibly some of the poverty.

Greater Birmingham.

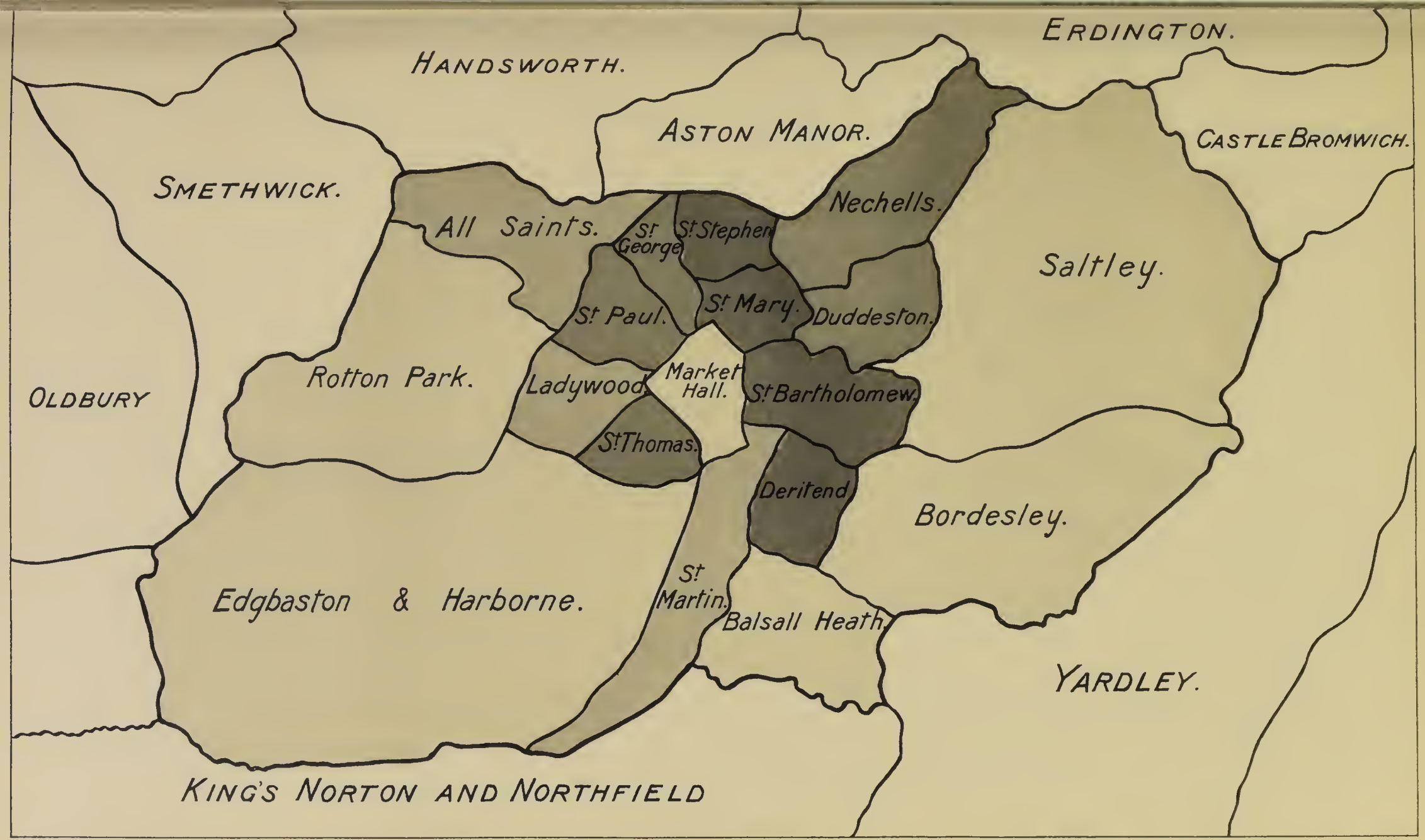
The estimated population, the number of births and deaths, and the birth-rate, death-rate, and infant mortality-rate in each of the various districts included in the Greater Birmingham scheme are set out in the following table, the figures being taken from the reports of the Medical Officers of the districts concerned:—

GREATER BIRMINGHAM.

	Population.	Births.	Birth-rate.	Deaths.	Death-rate.	Infant Deaths.	Infant Mortality rate.
Birmingham ...	535,000*	14,898	27·8	7,777	14·5	1,937	130
King's Norton	84,673	1,798	21·2	724	8·5	125	69
Yardley ...	63,000*	1,387	22·0	556	8·8	102	73
Aston Manor...	79,390*	1,998	25·1	1,025	11·9	219	109
Erdington ...	31,500*	786	24·9	276	8·8	68	86
Handsworth ...	72,964*	1,421	19·4	643	8·8	113	79
WHOLE AREA	866,527	22,288	25·7	11,001	12·7	2,564	115

* As estimated by the Medical Officer.

The above rates, although not strictly available for comparison, yet form a much better guide to the true position of Birmingham than those already recorded for the existing City, inasmuch as the populations in the suburban areas are essentially portions of the Birmingham population which has overflowed the boundary.


Handsworth.
Erdington.
Aston Manor.
Castle Bromwich.
Smethwick.
All Saints.
St George
St Stephen
Nechells.
Saltley.
St Paul.
St Mary.
Duddeston.
Rotton Park.
Ladywood
Market Hall.
St Bartholomew.
Oldbury
St Thomas.
Deritend
Bordesley.
Edgbaston & Harborne.
St Martin.
Balsall Heath.
Yardley.
King's Norton and Northfield
DEATH RATE under 12 per 1,000
12 to 15 per 1,000
15 to 18 per 1,000
over 18 per 1,000

As in previous years, the death-rates at various ages are given for a number of years in the table below:— Death rates at various ages.

Age Groups.	Death-rate per 1000. 1906.	1907.	1908.	1909.	1910.
Under 5 years ...	59·4	52·6	51·2	49·8	40·8
5 and under 10 years ...	3·9	3·8	3·5	4·0	3·3
10 ,, 15 ,, ...	1·9	1·8	1·8	1·7	1·6
15 ,, 20 ,, ...	2·2	2·4	2·4	2·2	1·9
20 ,, 25 ,, ...	2·9	2·8	2·2	2·3	2·4
25 ,, 35 ,, ...	4·8	4·9	5·4	4·6	4·4
35 ,, 45 ,, ...	10·2	10·4	10·4	9·7	8·3
45 ,, 55 ,, ...	16·6	17·9	18·1	16·8	16·6
55 ,, 65 ,, ...	33·6	34·4	35·5	31·9	30·8
Over 65 years ...	94·6	93·9	98·1	97·8	88·3

INFANT MORTALITY.

The number of infants who died in 1910 was 1,937, as compared with 2,030 in 1909, 2,339 in 1908, 2,300 in 1907, 2,686 in 1906, and 2,451 in 1905. The infant mortality-rates in the City and in England and Wales are set out below:— Infant mortality.

	Birmingham.		England and Wales.	
1871 ...	190		158	
1872 ...	166		150	
1873 ...	181	Average 182	149	Average 153
1874 ...	178		151	
1875 ...	196		158	
1876 ...	160		146	
1877 ...	164		136	
1878 ...	170	,, 164	152	,, 145
1879 ...	150		135	
1880 ...	178		153	
1881 ...	150		130	
1882 ...	165		141	
1883 ...	159	,, 161	137	,, 139
1884 ...	174		147	
1885 ...	157		138	
1886 ...	176		149	
1887 ...	178		145	
1888 ...	154	,, 173	136	,, 145
1889 ...	171		144	
1890 ...	184		151	
1891 ...	171		149	
1892 ...	166		148	
1893 ...	198	,, 176	159	,, 151
1894 ...	164		137	
1895 ...	182		161	
1896 ...	197		148	
1897 ...	214		156	
1898 ...	190	,, 199	160	,, 156
1899 ...	193		163	
1900 ...	199		154	
1901 ...	188		151	
1902 ...	157		133	
1903 ...	158	,, 171	132	,, 138
1904 ...	195		145	
1905 ...	155		128	
1906 ...	168		132	
1907 ...	147		118	
1908 ...	145	,, 145	120	,, 117
1909 ...	135		109	
1910 ...	130		106	

Infant mortality in each quarter.

The rate for 1910 was the lowest yet recorded. The rate for Greater Birmingham was 115 per 1,000 births. The infant mortality during the different quarters of the year was as follows:—

First Quarter	... ...	142 per 1000 Births.
Second ,,	... ...	105 ,,
Third ,,	... ...	107 ,,
Fourth ,,	... ...	166 ,,

The table below indicates how these quarterly mortality-rates compare with those recorded in previous years, and also gives some idea of the character of the weather during the third quarter, the quarter in which the infant mortality is generally at its highest:—

YEAR.	INFANT MORTALITY RATE.					Meteorological Observations (3rd Quarter).	
	Whole Year.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Mean Temperature of soil (4ft. deep)	Total Rainfall
1900 ...	199	177	164	267	190	54·4	5·43
1901 ...	188	156	139	268	191	54·8	5·91
1902 ...	157	161	146	143	178	52·8	7·51
1903 ...	158	143	129	171	184	52·0	9·85
1904 ...	195	172	152	274	185	54·1	5·75
1905 ...	155	136	136	200	149	54·1	7·33
1906 ...	168	141	139	259	145	54·0	2·97
1907 ...	147	157	126	124	184	52·2	6·08
1908 ...	145	134	118	184	145	52·9	6·94
1909 ...	135	154	104	145	138	52·3	7·64
Average of ten years	165	153	135	203	169	53·4	6·54
1910 ...	130	142	105	107	166	52·3	8·24
Percentage Increase or Decrease in 1910	– 21·2	– 7·2	– 22·2	– 47·3	– 1·8		

The year under review, from a climatic point of view, was a favourable one so far as infant mortality is concerned, but in addition to this advantage there can be little doubt that a profound change is being made for the better in the conditions under which infants are reared.

Chief causes of infant deaths.

The mortality was, as in previous years, mainly due to certain diseases, the most noticeable feature in the accompanying table being the relatively small number of deaths from diarrhœa.

DEATHS OF INFANTS UNDER ONE YEAR OLD.

Chief causes of infant deaths—(*continued*).

Causes of Death.	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Measles	62	37	50	47	40	46	81	13	108	7
Whooping Cough ...	81	122	37	210	72	105	63	121	54	95
Diarrhœa	634	327	462	764	364	667	188	364	183	149
Enteritis	154	78	84	92	126	151	116	128	99	125
Tuberculous Diseases	129	98	111	93	75	54	70	58	40	56
Premature Birth ...	348	361	365	377	304	321	318	338	318	331
Debility & Marasmus	648	562	531	569	536	453	458	457	391	335
Convulsions ...	167	172	119	144	128	98	120	104	79	99
Bronchitis, Pneumonia, and Pleurisy ...	399	409	413	505	380	356	441	335	314	324
Suffocation... ...	92	70	95	96	75	85	78	87	61	87
All other Causes ...	436	445	401	405	351	350	367	334	383	329
Total ...	3150	2681	2668	3302	2451	2686	2300	2339	2030	1937

The deaths of infants from various causes and at different ages are set out in the accompanying table. It will be seen that no less than 383—that is, a fifth of all the infants who died under one year of age—succumbed within the first seven days, and that about one-third of all the infants who died under the age of one year died within the first month.

INFANTILE MORTALITY DURING THE YEAR 1910.

Deaths from stated Causes in Weeks and Months under One Year of Age.

Cause of Death.	Weeks.				Total under 1 Month.	Months.											Total Deaths under One Year
	0	1	2	3		1	2	3	4	5	6	7	8	9	10	11	
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	2
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	4	7
Scarlet Fever	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	2
Diphtheria: Croup	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Whooping Cough	..	..	2	..	2	3	12	4	10	9	6	6	7	16	9	11	95
Diarrhœa, all forms	..	2	1	2	5	9	15	23	20	16	16	10	7	11	7	10	149
Enteritis (*not Tuberculous*)	..	1	3	1	5	13	26	11	15	10	7	9	7	7	6	9	125
Gastritis	..	1	2	1	4	5	10	2	2	3	..	4	2	1	4	5	42
Premature Birth	231	33	23	11	298	22	7	..	..	2	1	..	..	1	..	..	331
Congenital Debility and Defects	99	25	35	16	175	27	3	2	2	2	4	2	1	1	..	1	220
Injury at Birth	10	1	..	..	11	..	..	..	..	..	..	..	..	..	..	..	11
Want of Breast-milk	2	2	..	1	5	3	3	1	3	..	..	..	..	..	..	..	15
Atrophy, Debility, Marasmus	..	..	..	..	..	42	30	28	25	18	12	12	7	9	7	4	194
Tuberculous Meningitis	..	..	..	..	..	1	..	2	1	2	..	1	4	4	5	4	24
Tuberculous Peritonitis Tabes Mesenterica	..	..	..	..	..	..	..	3	1	..	1	..	3	1	3	1	13
Other Tuberculous Diseases	..	..	..	1	1	..	1	4	1	1	..	2	6	1	1	1	19
Erysipelas	..	..	..	..	..	1	2	1	1	..	..	..	..	..	1	..	6
Syphilis	3	1	1	4	9	6	4	1	3	1	..	2	1	1	..	..	28
Rickets	..	..	..	..	..	..	..	1	..	1	..	1	..	1	..	2	6
Meningitis (*not Tuberculous*)	..	..	..	..	..	4	4	6	3	4	3	9	8	4	2	2	49
Convulsions	11	6	3	6	26	14	14	13	5	9	5	5	2	2	4	..	99
Bronchitis	..	1	6	7	14	21	14	12	10	14	7	12	9	7	5	4	129
Laryngitis	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	..	3
Pneumonia	1	3	3	2	9	16	9	14	22	16	20	22	12	16	21	17	194
Suffocation, overlaying	9	2	3	4	18	26	13	7	10	2	1	1	1	..	2	..	81
Other Causes	17	3	3	3	26	9	5	4	5	9	7	7	4	5	6	5	92
	383	81	85	59	608	222	172	139	140	120	91	105	82	92	85	81	1937

Births in the year—legitimate 14,498, illegitimate 400; Deaths from all causes at all ages—7,777.

Infant mortality in wards.

The infant mortality in different Wards is shown below:—

INFANT MORTALITY IN WARDS.

WARDS.	Infantile Mortality Rate per 1,000 Births.						Percentage Increase or Decrease in 1910, compared with the 5 years 1905-1909.
	1905.	1906.	1907.	1908.	1909.	1910.	
Rotton Park ...	134	136	135	117	116	100	- 22
All Saints'	126	166	129	135	111	113	- 15
Ladywood	160	157	133	118	128	123	- 12
St. Paul's	138	185	158	201	182	180	+ 4
St. George's ...	151	161	150	169	166	140	- 12
St. Stephen's ...	177	222	199	214	211	163	- 20
St. Mary's	201	207	200	208	208	202	- 1
St. Bartholomew's	207	268	198	201	155	201	- 2
Market Hall... ...	186	195	199	208	139	148	- 20
St. Thomas' ...	164	199	135	153	157	152	- 6
St. Martin's ...	179	185	160	137	146	148	- 8
Edgb'n and Harb'e	131	117	100	93	99	74	- 31
Deritend	205	201	179	159	141	177	—
Bordesley	131	132	119	107	94	106	- 9
Duddeston	171	158	171	174	167	150	- 11
Nechells	161	192	166	171	158	156	- 8
Balsall Heath ...	113	117	98	104	109	86	- 20
Saltley	140	130	125	105	107	99	- 18
City	155	168	147	145	135	130	- 13

As in the case of the general death-rate, so in the case of the infant mortality-rate, there is a close relationship between poverty and mortality. This is shown in the accompanying chart, in which the proportion of houses at 3/6 per week is compared with the infant mortality-rate. It should be stated, however, that the proportion of houses is that maintaining twelve years ago, no census of houses at this rental having since been taken.

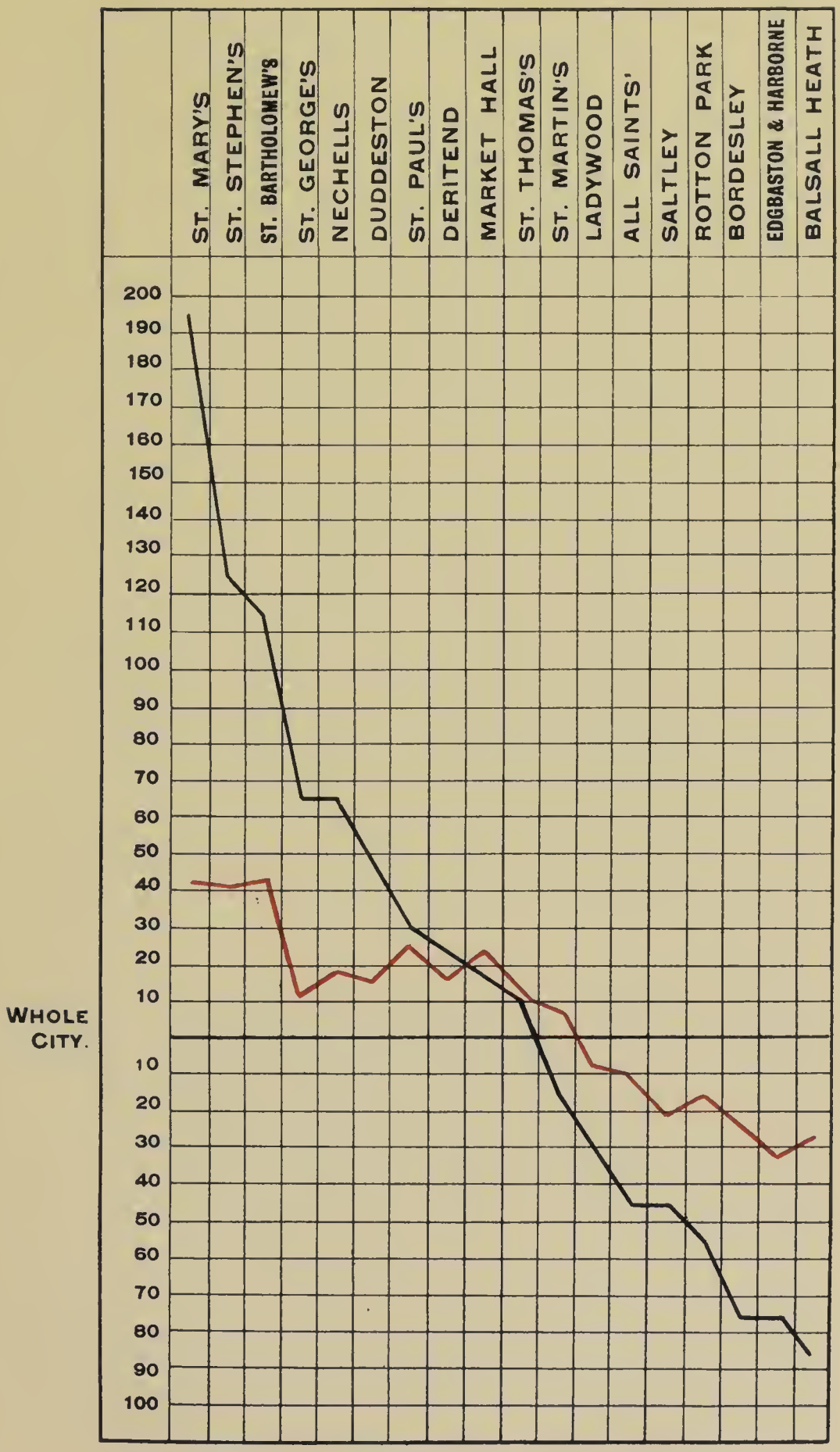
Infant mortality in large towns.

Comparative statistics for Birmingham and other large towns are set out below:—

INFANTILE MORTALITY IN LARGE TOWNS.

	1910.	Average, 1905-1909.	Percentage above or below Average
London	103	120	- 14
Liverpool	140	151	- 7
Manchester	131	151	- 13
Birmingham	**130**	**149**	**- 13**
Leeds	132	138	- 4
Sheffield	127	146	- 13
Bristol	90	115	- 22
West Ham	101	137	- 26
Bradford	127	136	- 7
Newcastle	121	133	- 9
Hull	135	140	- 4
Nottingham	128	157	- 18
Leicester	126	141	- 11
Stoke-on-Trent	149	...	...
Salford...	130	148	- 12
Portsmouth	104	116	- 10

CHART No. 2.



Proportion of Houses at 3/6 per week or less in 1898 ——
(Percentage above or below Whole City).

Infant Mortality Rate per 1,000 Births, 1906-1910 ——
(Percentage above or below Whole City).

Many organisations are now at work with a view to lessening the great waste of human life which takes place at a very early age. It is recognised beyond doubt that many of the children who die are of robust constitution, and would, if ordinary care were adopted, become healthy adults, and this makes it all the more desirable that special efforts should be made to save their lives. The following should be mentioned as some of the agencies at work in Birmingham :—

Agencies for preventing infant mortality.

(1) *Agencies directly or indirectly connected with the municipality.*

(*a*) A large amount of instruction is given to the older girls in public elementary schools which has a direct or indirect bearing on the health of young infants.

(*b*) As the result of the information gained under the Notification of Births Act, and from the registration of such births as are not notified, it is possible to send one of the large staff of Health Visitors to every house in the artisan districts of Birmingham shortly after the birth is recorded, with a view first of all of ascertaining whether advice can profitably be offered, and, if so, of giving the necessary advice. If there is evidence of ignorance or neglect, the first visit is followed by numerous subsequent visits. During the year under review 11,738 first visits were paid in this connection. It is satisfactory to record that these visits are welcomed, and with few exceptions appreciated.

(*c*) The Midwives Act enables the Local Authority to insist that a certain amount of instruction shall be given by the midwife to the mother during the period of the midwife's attendance. In Birmingham, where all the midwives are in close touch with the Authority on the one hand, and where, on the other hand, the Notification of Births Act enables us to visit the homes, we find that the midwives do carry out their work in this respect with reasonable intelligence.

(*d*) In the St. Stephen's and St. George's area the Health Committee have engaged the services of a lady doctor to visit the homes where babies are born, and, in addition, have established a "Consultation," to which those who are not making good progress can be regularly taken for examination.

(2) *Agencies not directly connected with the municipality.*

Agencies for preventing infant mortality —(*continued*).

In addition to the work done by the Children's Hospital and by the children's departments in other hospitals, most praiseworthy work is being carried out by three voluntary agencies, viz., the Birmingham Infants' Health Society, the Guild of Mothers, and the Consultation at the Birmingham Maternity Hospital.

The Birmingham Infants' Health Society confine their work to St. Bartholomew's Ward, one of the poorest Wards in the City, where not only are the houses periodically visited by a trained visitor or voluntary helpers, but a Consultation is also held, and various other adjuncts to the work are in operation.

In St. Mary's Ward the Guild of Mothers, another similar organisation, carries on very efficient work at their Consultation by means of a paid worker and voluntary helpers.

Equally satisfactory work is being done by the Birmingham Maternity Hospital, where the babies who are born in that institution are regularly brought up for advice, and, if necessary, treatment.

Many other institutions might be mentioned, such as Mothers' Meetings and Health Lectures, by means of which the importance of attending to certain general principles in the rearing of an infant is being emphasized.

Such work, however, can only show results slowly, as in nearly all cases the process is one of educating women, who, in the majority of instances, are ignorant of the general principles of infant rearing, and, moreover, are much attached to certain harmful traditional methods. It must be obvious, too, that what was sufficient in bygone years in rural districts is not now sufficient in the poorest class areas in a large city.

In this report mention has already been made of the importance attached to cleanliness in any future attempts to reduce further the general mortality of the country. In no department of preventive work is the question of cleanliness so important as in that relating to the infant mortality.

Attention might here be directed to the fact that dirtiness is to a considerable extent more prevalent in those areas of the City where the atmosphere is so charged with soot and dust that the keeping of a good standard of cleanliness is a matter of extreme difficulty. It is unfortunate that just those people who are most liable to backslide should be located in such areas. It is hoped

that in the near future much can be done in removing works areas from residential areas, and thereby making it possible to keep the homes of the people clean with much less labour.

Agencies for preventing infant mortality —*(continued)*.

A special report will be found at the end of this report on the work done in St. Stephen's and St. George's Wards during the two years 1909 and 1910. In this report the influence of poverty as a factor in the production of infant mortality is commented on, and the charts attached to the report indicate in a graphic manner how great an effect poverty has upon the infant mortality-rate. It is shown that, on the one hand, the infant mortality-rate in houses where the father's income is below twenty shillings per week, is no less than 210 per 1,000, while, on the other hand, in houses in the same district where the income is above twenty shillings per week, it is only 140 per 1,000. It is obvious, however, that such a wage-limit is a very crude guide to the influence of poverty on the infant mortality. An equally suggestive guide would be the difference between the mortality in St. Mary's Ward (202 per 1,000 births) and that in Balsall Heath (86 per 1,000 births), both of these Wards being inhabited mainly by artisans.

Infant mortality in St. George's and St. Stephen's Wards.

In the same report it will be noted, taking again the somewhat arbitrary division between fathers earning less than 20/- per week and those earning more than 20/-, that among all the babies weighed at the age of twelve months there was a difference of about one pound in the weight of the infant in favour of those coming from homes where the father's income was over 20/-: that is to say, there is most direct evidence that, even at this early age, poverty begins to show profoundly its influence on the health of the infants who survive.

Similar figures have been reported during the past three years in the weights of infants attending the other Consultations. In the report of the Birmingham Infants' Health Society it is shown that the average weight of infants at three months of age where there was distinct evidence of poverty was 4,787 grammes, while infants of the same age from homes where the circumstances were slightly better weighed 5,048 grammes. At six months the difference was that between 6,237 and 7,120 grammes, while at twelve months of age the figure was 7,780 grammes, as compared with 8,419. That is to say, at three months old the difference was 9 ounces, at six months 1 pound 15 ounces, and at twelve months 1 pound 7 ounces.

INFECTIOUS DISEASES.

Zymotic mortality

Six hundred and forty deaths were recorded from the seven principal zymotic diseases during 1910. There were 1,140 so reported in 1909, 1,077 in 1908, 992

Zymotic mortality—(*continued*).

in 1907, and 1,521 in 1906. The rate of mortality from this group of diseases was 1·12 per 1,000, as compared with 2·03 in the previous year. The rate of 1·12 per 1,000 was considerably below that recorded in any previous year, the next lowest being 1·80 in 1907.

The following comparative statement shows the deaths from each cause during 1910 and in the ten preceding years:—

Disease.	1910	Average 1900 to 1909.	Above or below Average.
Smallpox	0	2	- 2
Measles	41	240	- 199
Scarlet Fever	85	114	- 29
Diphtheria	64	103	- 39
Whooping Cough ...	215	241	- 26
Typhoid Fever	24	69	- 45
Diarrhœa	211	563	- 352

The rate of mortality in the 77 great towns was 1·23 per 1,000. It was highest in Liverpool, which had a rate of 2·28 per 1,000.

SMALLPOX.

Smallpox.

No case of this disease occurred in 1910. The City has now been free from smallpox since 1905.

VACCINATION.

Vaccination.

The Vaccination Officers have supplied the Health Department with the following return for 1909:—

Births returned	14,903	
Conscientious objections ..	569 or 3·8%	of total.
Died unvaccinated	1,436	
Successfully vaccinated ...	11,262 or 83·6%	of survivors.
Postponed by medical advice	161 or 1·2%	,,
Removed to other districts ...	167 or 1·2%	,,
Lost sight of	1,132 or 8·4%	,,
Still under notice	130 or 1·0%	,,

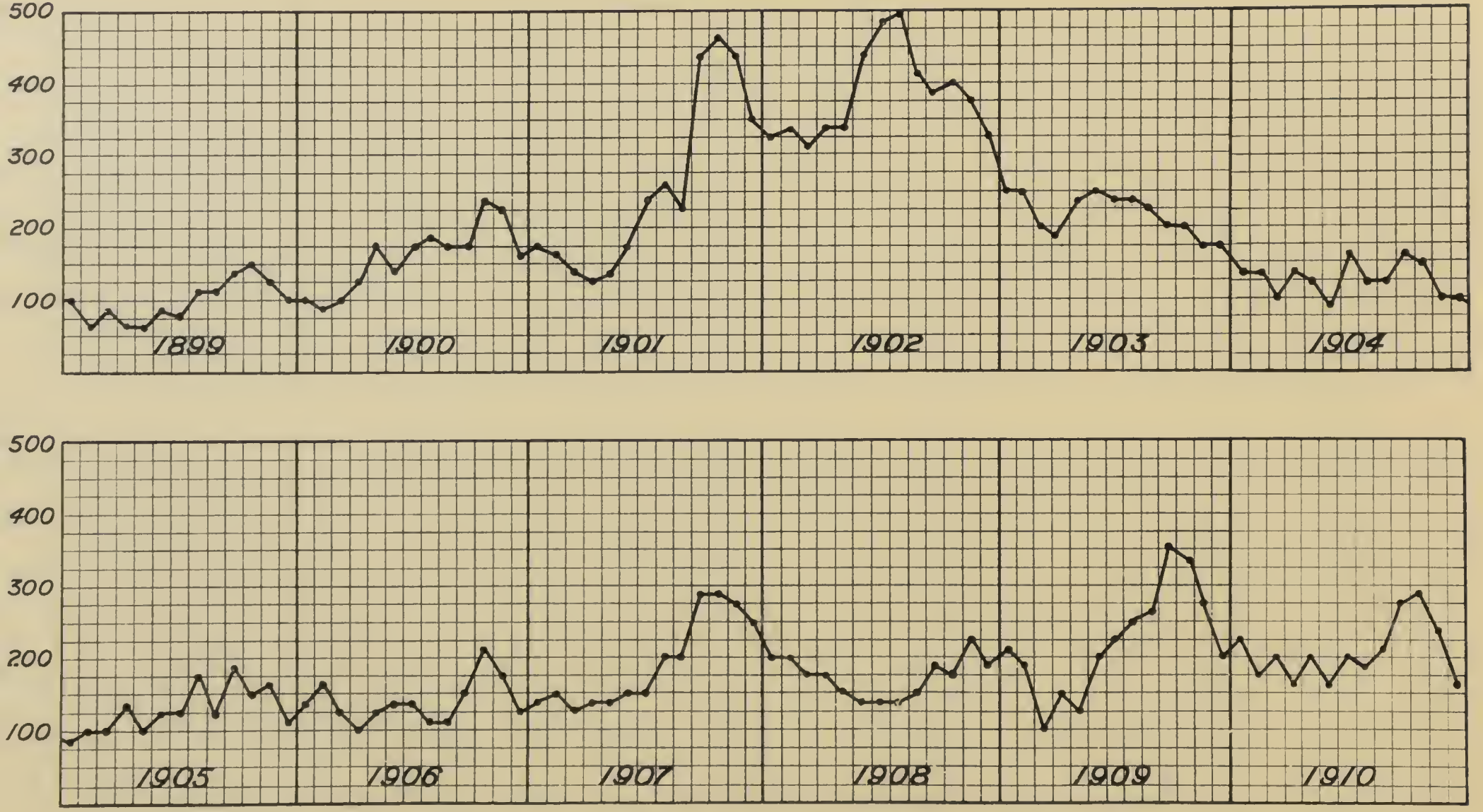
It should be noted that this return relates to one year, and that many of the children whose vaccination is recorded as having been postponed on medical advice, or who have removed to other districts or been lost sight of, will subsequently be vaccinated.

MEASLES.

Measles.

During 1910 there were 41 deaths registered from measles, as compared with 527 in the previous year. It will be remembered that in 1909 a severe and widespread epidemic of the disease occurred. During the first ten months of 1910 very few cases were recorded, but in the last two months of 1910 and in the early part of 1911 a severe outbreak occurred, causing the notification of over 5,000 cases by the school teachers in a period of six months.

CHART No. 3.



CASES OF SCARLET FEVER IN FOUR WEEK PERIODS

SCARLET FEVER.

Scarlet Fever.

There were 2,709 cases of scarlet fever notified as occurring in the City during 1910, as compared with 2,871 in 1909. A number of other cases were notified as scarlet fever, but were afterwards found to be suffering from other disease, and these, together with a few cases not belonging to Birmingham, brought up the total number of notifications to 2,783.

The number of deaths due to scarlet fever was 85, making a fatality rate of 3·1 per cent.

The above figures are equal to a sickness-rate and death-rate for scarlet fever per 1,000 of the population of 4·76 and 0·15 respectively. The corresponding figures for 1909 were 5·11 and 0·19.

Scarlet Fever in wards.

In the following table the incidence-rate for each of the Wards and for the City is given for the five years 1906-1910:—

SCARLET FEVER SICKNESS RATES.

Ward.	1906.	1907.	1908.	1909.	1910.	Mean of five years.
Rotton Park	3·22	3·96	5·14	4·17	7·42	4·78
All Saints'	3·41	3·69	4·67	7·51	5·49	4·95
Ladywood	2·75	2·82	2·38	1·90	5·34	3·04
St. Paul's	1·72	3·73	3·61	4·98	2·73	3·35
St. George's	5·04	4·48	5·86	7·90	3·45	5·35
St. Stephen's	5·20	6·06	4·77	7·68	3·00	5·34
St. Mary's	2·59	4·33	1·85	5·02	2·78	3·31
St. Bartholomew's ...	2·19	5·34	2·46	5·12	2·96	3·61
Market Hall	2·12	4·59	1·82	1·94	1·66	2·43
St. Thomas'	1·33	4·38	2·64	2·32	1·87	2·51
St. Martin's	2·09	6·72	3·20	3·48	2·58	3·61
Edgbaston and Harborne	2·23	4·88	2·28	4·89	6·57	4·17
Deritend	1·72	3·41	3·96	5·12	1·98	3·24
Bordesley	3·27	4·06	4·18	5·82	5·93	4·65
Duddeston	3·75	6·08	3·79	4·19	5·66	4·69
Nechells	4·21	6·13	4·86	6·62	5·27	5·42
Balsall Heath	3·56	4·25	7·63	4·08	4·32	4·77
Saltley	4·86	4·75	3·91	7·76	6·70	5·60
Whole City	3·32	4·58	4·01	5·11	4·76	4·36

As usual, there is practically no correspondence between the Ward distribution for this year and previous years.

In Chart No. 3 is shown the distribution of the cases throughout the year for the past twelve years.

Scarlet Fever in schools.

Careful records have been kept during the past year as to the occurrence of cases of scarlet fever in schools. In seven schools small outbreaks have been noticeable, but the incidence of the disease in the individual schools has not indicated any marked influence upon the spread of the disease on the part of the schools themselves. In this

Scarlet fever and schools—(*continued*).

respect the experience of past years has been repeated. In one school a particular class in the infants' department produced nine cases from the 3rd to the 6th of November, and this class (only) was therefore closed after 9th November until 12th December.

Chart No. 4 has been constructed with a view to showing what influence is exerted by school attendance upon scarlet fever incidence. The black line shows the average number of new cases of scarlet fever notified during each week of the year for the five years 1906-1910 (the first week ending on Saturday, 6th January, 1906; Saturday, 5th January, 1907; Saturday, 4th January, 1908; Saturday, 9th January, 1909; Saturday, 8th January, 1910). The red line shows the same facts for children of the five to fifteen years age period, and the green line for children under five years of age. The great bulk of the former children were attending school, while the bulk of the latter were not. The dates of the school holidays in the public elementary schools in the City for each of the years in question have been obtained from the Education Department, and are shown in the following table:—

	EASTER		WHITSUNTIDE.		SUMMER.		CHRISTMAS.	
	Closed Mid-day.	Re-opened.	Closed Mid-day.	Re-opened.	Closed Mid-day.	Re-opened.	Closed Mid-day.	Re-opened.
1906	Apr 12	Apr. 23	June 1	June 11	July 27	Aug. 27	Dec. 21	Jan. 7
1907	Mar. 28	Apr. 9	May 17	May 28	July 26	Aug. 27	Dec. 20	Jan. 7
1908	Apr. 16	Apr. 28	June 5	June 16	July 24	Aug. 25	Dec. 23 After	Jan. 12
1909	Apr. 8	Apr. 20	May 28	June 8	July 23	Aug. 24	Dec. 22 After	Jan. 11
1910	Mar. 24	Apr. 5	May 13	May 24	July 22	Aug. 23	Dec. 21	Jan. 10

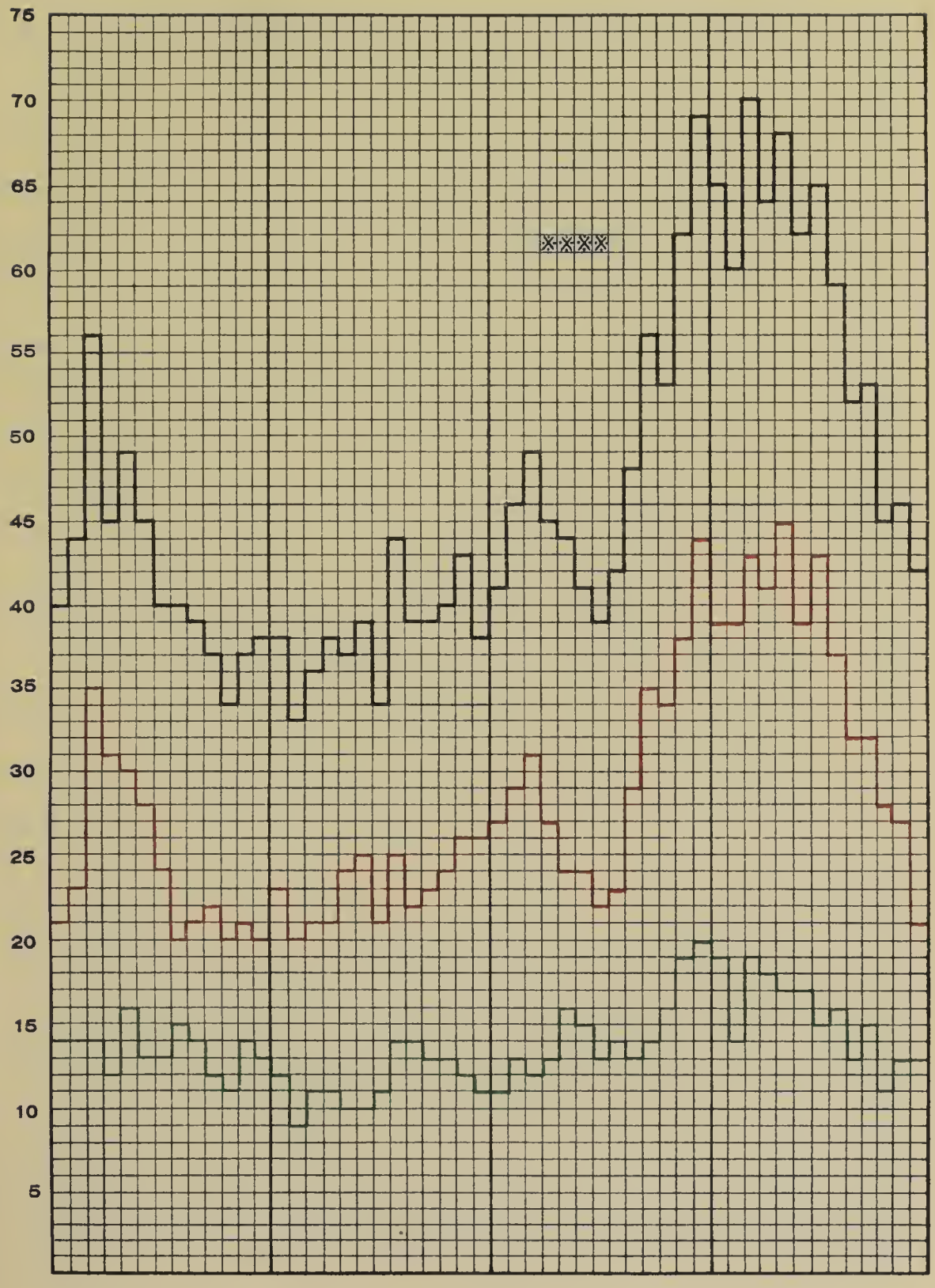
It will be seen that in every year the summer holiday began at mid-day on Friday of the 29th week, the schools re-opening on the Tuesday of the 34th week.

If the summer vacation had any influence in checking the amount of scarlet fever amongst school children there should be a lessening in the incidence, first showing itself partly in the 30th week and fully in the 31st week; and a corresponding increase showing itself partly in the 34th week and fully in the 35th week. This would be expected when there are taken into consideration the incubation period of the disease, and the time likely to elapse between the date of onset and the date of receipt of notification.

Reference to the red curve shows that there was, as a matter of fact, such a fall in the 30th and 31st weeks; and that, a minimum having been reached in the 33rd week, there was a rise, very slight in the 34th week and

CHART No. 4.

SCARLET FEVER CASES.



AVERAGE No OF CASES (ALL AGES) 5 YEARS, 1906-10 ——

" " " (5-15 YEARS) " " ——

" " " (UNDER 5 ") " " ——

SCHOOL HOLIDAYS. ※

more marked in the 35th week. The curve certainly suggests that during the third quarter the gradual rise in the incidence of scarlet fever amongst school children was interrupted during the summer holiday. Scarlet fever and schools—(*continued*).

It will be noticed that in the case of the green curve (children under five) there is a very much slighter depression, beginning and ending between one and two weeks after the depression just mentioned. This might be explained as the natural decrease among the children under five resulting from lessened infection reaching them from the older children.

Assuming, as appears probable, that the decline in scarlet fever incidence coinciding with the summer holidays of the schools is causally connected with these holidays, it is evident that the influence of school attendance alone is less marked than that of other factors. For instance, the two sudden and more marked declines shown in the red curve, and beginning in October and January, both coincide with periods of school attendance.

The Christmas holidays begin during the rapid winter fall in scarlatinal incidence, so that their effect (if any) is obscured. Though there is a sharp rise (third week of the year) in the week following the termination of these holidays, it does not seem reasonable to attribute this necessarily to the re-assembling of the schools, because it is followed by a rapid fall during the next few weeks, the whole of which time the schools are open. The Easter and Whitsuntide holidays are each less than a fortnight, and are of variable date.

It is the practice in this City to exclude all children from school in houses where a case of scarlet fever has occurred. If the case is removed to hospital, the other children are excluded for ten days from the date of disinfection of the house, provided that no further cases occur in the meantime. Where the case is treated at home, they are excluded until ten days have elapsed from the date of the disinfection of the house following the recovery of the patient.

With the view of testing the suitability of the ten days' standard the interval between the date of removal of the primary cases (or where the primary case was kept at home, the date of receipt of notification) and the onset of the illness of the second case has been worked out and tabulated.

In houses where more than one secondary case has occurred only the first secondary case has been counted, the later cases being ignored.

Scarlet fever and schools—(*continued*).

The results are given below:—

No. of days' interval.	No. of Cases (First case removed to hospital).	No. of Cases (First case treated at home).
0	169	59
1	18	4
2	18	—
3	8	2
4	13	1
5	12	2
6	7	1
7	8	4
8	2	2
9	3	1
10	2	4
11	1	2
12	4	3
13	5	2
14	1	—
15	—	1
16	1	1
17	1	1
18	1	2
19	3	1
20	1	—
21	—	3
22	1	1
23	2	1
24	—	—
25	1	1
26	3	—
27	1	—
28	1	—
Over 28	153	29
	440	131

The high figure for secondary cases occurring after 28 days is largely accounted for by "return cases."

The cases occurring after "0" days' interval are those which were taken ill either before or on the same day as the first cases were removed (or, if kept at home, the same day as the notifications of the first cases were received).

It will be seen that of the 287 cases which occurred within 28 days of the removal to hospital of the primary cases 253 occurred in the first 7 days and 260 in the first 10 days; leaving 27 cases which began after 10 days from the date of removal of the primary case (or 9·4 per cent. of those beginning within 28 days of such removal).

Scarlet fever in institutions.

An outbreak of scarlet fever occurred during the year at a charity boarding-school in the City. The school consists of about 150 boys and 100 girls of school ages. There were in all 39 children (23 boys and 16 girls) removed to the City Hospital, of whom 37 proved to be true cases of scarlet fever. There had been no cases of this disease in the school for four months when the first

case occurred on 23rd December, 1909, during the Christmas holidays. This first case (a boy) developed the disease at home 36 hours after breaking-up. The next case fell ill on 13th January, 1910, and others followed in quick succession. When the school was closed for one month on 23rd June there had been 36 cases. During this month the school was thoroughly cleansed and disinfected, and the only subsequent case was shown to have received his infection before the closing of the school. After the re-opening of the school on 21st July no further cases appeared, and the school has since been free from this disease. The behaviour of the disease makes it probable that it was spread by means of a carrier case or cases, and that the holiday was sufficient to free this carrier from his infection. This is suggested by the fact that there were several long intervals during which no fresh cases occurred. For instance, from 25th January to 5th February (11 days); from 9th February to 18th February (9 days); from 19th February to 8th March (17 days); from 31st March to 9th April (9 days); and from 11th April to 14th May (33 days) were all periods of freedom from the disease. The medical officer of the school made careful inspection of all the children, and several cases of sore-throat were isolated in the school isolation rooms which could not be diagnosed as scarlet fever. No definite carrier case, however, was discovered. From the fact that cases of scarlet fever arose amongst the children in the isolation rooms it is probable that some of the cases of sore-throat were scarlatinal in nature.

Scarlet fever in institutions—(*continued*).

No serious outbreaks of scarlet fever occurred in any other public institutions in the City.

Records have been kept during the year of the cases of scarlet fever occurring amongst the customers of all the milk-sellers in the City. There has been no evidence of any "milk outbreak" of the disease.

Scarlet fever and Milk.

Of the 2,709 cases of scarlet fever 1,958, or 72 per cent., were removed to the City hospitals. The figures for the past 18 years are set out below, those from 1907 onwards being corrected for revisions of diagnosis:—

Scarlet fever cases removed to hospital.

	Cases Notified.	Cases Removed.	Percentage.
1893 ...	1614 ...	1339 ...	83%
1894 ...	1788 ...	1539 ...	86%
1895 ...	2964 ...	2595 ...	88%
1896 ...	*3389 ...	*2812 ...	83%
1897 ...	1929 ...	1641 ...	85%
1898 ...	1320 ...	1083 ...	82%
1899 ...	1255 ...	1052 ...	84%
1900 ...	2063 ...	1814 ...	88%
1901 ...	3314 ...	2959 ...	89%
1902 ...	*5044 ...	*4534 ...	90%

Scarlet fever cases removed to hospital—(*continued*).

	Cases Notified.	Cases Removed.	Percentage.
1903	2835	2455	87%
1904	1659	1437	87%
1905	1684	1489	88%
1906	1814	1557	86%
1907	2522	2186	87%
1908	*2275	*1962	86%
1909	2871	2237	78%
1910	2709	1958	72%

*53 weeks.

Corrected diagnosis in scarlet fever.

One hundred and nineteen cases of illness, after having been notified as suffering from scarlet fever and admitted to the City Hospital, proved not to be suffering from that disease. They are considered in detail in the report of the Medical Superintendent of Little Bromwich Hospital. (See page 85 of this report.)

Of the cases treated at home, in 26 instances the doctor in charge of the case informed the Medical Officer of Health that the diagnosis of scarlet fever proved to be erroneous. It is probable that in other cases such revision of diagnosis was made without the Medical Officer of Health being informed.

In any case where there is doubt as to the diagnosis of a possible case of scarlet fever, or other notifiable disease, the practitioner in charge of the case can obtain a consultation with the Medical Officer of Health, his assistant, or a doctor from the City Hospitals, on applying to the Medical Officer of Health.

Secondary cases of scarlet fever in infected houses.

The enquiry into the incidence of secondary cases in houses from which the primary case had been removed to hospital, on the one hand, and in those where the primary case was treated at home on the other hand, has been continued this year.

From this enquiry all cases have been excluded which proved to have been erroneously diagnosed as scarlet fever; and all institution cases.

All primary cases occurring during 1910 are included, together with their corresponding secondary cases: the latter, of course, occurring during 1910 and the earlier part of 1911.

The same definition of secondary case has been adopted as last year. It is such that in every house where two or more cases have occurred all except one are treated as secondary to the first case (except that a new case of scarlet fever occurring in a house more than two months after a previous case has recovered is treated as primary).

A susceptible person is taken to be one who is said not previously to have had scarlet fever, as determined by the Inspector's enquiries.

All persons under the age of 15 are taken as children.

Secondary cases of scarlet fever in infected houses—(*continued*).

In the following table are given figures showing the number and proportion of houses from which the first case was treated in hospital, or at home, respectively; together with the number and proportion of houses in which no secondary cases occurred, in each of the groups:—

RECURRENCE OF SCARLET FEVER IN HOUSES (1904-1910).

		1904.	1905.	1906.	1907.	1908.	1909.	1910.	Seven years 1904-10.
Total cases	Number of cases	1473	1532	1680	2388	2147	2725	**2585**	14530
	Number of houses involved...	1235	1221	1382	1947	1794	2166	**2014**	11759
	Average number of cases per house	1·19	1·25	1·2	1·2	1·2	1·3	**1·3**	1·2
	Number of cases removed to hospital	1253	1334	1431	2077	1861	2133	**1883**	11972
	Proportion of cases removed to hospital	85%	87·1%	85·2%	87·0%	86·7%	78·3%	**72·8%**	82·4%
	Number of houses in which primary cases only occurred	1042	1018	1165	1665	1478	1744	**1620**	9732
	Proportion of houses in which primary cases only occurred	84·4%	83·4%	84·3%	85·5%	82·4%	80·5%	**80·4%**	82·8%
Hospital cases	Number of houses from which primary cases went to hospital	1026	1054	1155	1685	1537	1687	**1436**	9580
	Number of such houses in which no cases followed ...	868	864	979	1456	1249	1327	**1137**	7880
	Proportion of such houses in which no cases followed ...	84·6%	81·9%	84·7%	86·4%	81·2%	78·6%	**79·2%**	82·3%
Home cases	Number of houses in which primary cases were kept at home	190	167	211	237	257	479	**578**	2119
	Number of such houses in which no cases followed ...	174	154	186	209	229	417	**483**	1852
	Proportion of such houses in which no cases followed ...	91·5%	92·2%	88·15%	88·2%	89·1%	87·0%	**83·6%**	87·4%

The following tables indicate in each group the size of the houses involved, together with the number of inmates and their character as to susceptibility:—

INMATES OF THE TWO GROUPS OF HOUSES.

	Houses from which 1st Case went to Hospital.								Houses in which 1st Case was kept at Home.							
	1904	1905	1906	1907	1908	1909	1910	Average 1904-10	1904	1905	1906	1907	1908	1909	1910	Average 1904-10
Average number of persons per house ..	4·7	5·8	4 7	6·0	5·8	6·0	**5·9**	5·6	5·0	5·0	4·0	3·9	5·0	5·1	**5·1**	4·7
Proportion of children to total inmates	41·2%	50·2%	41·0%	49·2%	51·3%	51·2%	**51·1%**	47 9%	39·4%	40·9%	28·8%	38·6	40·0%	40·7%	**41·4%**	38·5%
Average number of rooms per house .	4·6	4·5	4·7	4·7	4·6	4·6	**4·7**	4·6	6·3	6·2	6·2	6·1	6 0	5·9	**6·0**	6·1
Average number of persons per room ..	1·0	1·3	1·0	1·2	1·3	1·3	**1·3**	1·2	0·8	0·8	0·6	0·6	0·8	0·9	**0·8**	0·8
Average number of persons per bedroom	1·8	2·3	1·8	1·8	2·2	2·3	**2·2**	2·1	1·4	1·4	1·2	1·4	1·5	1·6	**1·5**	1·4

SUSCEPTIBLE PERSONS IN THE TWO GROUPS OF HOUSES.

	1st Case removed to Hospital.								1st Case kept at Home.							
	1904	1905	1906	1907	1908	1909	1910	Average 1904-10	1904	1905	1906	1907	1908	1909	1910	Average 1904-10
Proportion of inmates constituted by susceptible children	37·3%	31·0%	37·1%	34·1%	30·9%	32·5%	**31·8%**	33·5%	16·8%	20·4%	24·4%	23·0%	17·8%	20·6%	**19·9%**	20·4%
Average number of susceptible children remaining after each instance.. ..	1·76	1·80	1·76	2·05	2 2	1·9	**1·9**	1·9	0·84	1·01	0·90	0·90	1·7	1·1	**1·0**	1·1
Average number of susceptible persons (all ages) remaining after each instance	3·96	4·22	4·18	4·2	4·1	4·4	**4·2**	4 2	2·97	3·18	3·2	3·6	3·3	3·5	**3·3**	3·3
Proportion of instances in which susceptible children remained	80·8%	82·1%	81·1%	82·8%	80·0%	82·8%	**83·3%**	81·8%	52·1%	51·5%	55 9%	57·4%	50·6%	59·7%	**61·4%**	55·5%
Proportion of instances in which susceptible persons (all ages) remained ..	99·2%	99·5%	98·8%	98·9%	98·9%	99·4%	**99·2%**	99·1%	94·2%	97·0%	92·9%	96·1%	97·2%	97·5%	**98·8%**	96·2%

Secondary cases of scarlet fever in infected houses—(*continued*).

As in the case of last year, the figures have been further analysed in order to eliminate the influence of the varying number of susceptible persons per house in the two classes of houses, and also the different social conditions in the two classes as indicated by the different size of the houses. The results are given below.

It has been found that in 1910:—

Primary case removed to hospital—No. of secondary cases per 1,000 susceptible persons remaining = 73·7

Primary case treated at home—No. of secondary cases per 1,000 susceptible persons remaining = 64·8

The number of susceptible persons remaining was, for hospital cases, 6,059, and for home cases 1,913; and the corresponding number of secondary cases was, for hospital cases, 447, and for home cases 124

The proportion of *total* cases per 1,000 susceptible persons was:—

251 in houses where primary case was treated in hospital.
282 ,, ,, ,, ,, ,, ,, ,, at home.

The following results have been obtained on dividing all cases into those occurring in houses with five or less rooms and those occurring in houses with six or more rooms:—

In houses with five or less rooms:—

Among hospital cases—No. of secondary cases per 1,000 susceptible persons remaining = 68·1

Among home cases—No. of secondary cases per 1,000 susceptible persons remaining = 44·7

And in houses with six or more rooms:—

Among hospital cases—No. of secondary cases per 1,000 susceptible persons remaining = 82·5

Among home cases—No. of secondary cases per 1,000 susceptible persons remaining = 71·4

The relative number of susceptible persons respectively in the two groups of houses, divided according to the number of rooms, is shown in the following table:—

	Average number of susceptible persons per house	
	Houses with six rooms or more.	Houses with five rooms or less.
Removed to hospital ...	4·5	4·1
Kept at home	3·6	2·7

The figures for this year support the inference derived from those of previous years, that, at any rate, where the patient can be kept in a separate room (which is the standard that has been adopted), the results obtained in the bulk are as good, so far as the occurrence of secondary cases is concerned, when the scarlet fever patient is treated at home as when he is removed to hospital.

The mortality-rate for patients isolated in hospital was 3·3 per cent., as compared with 2·1 per cent. for those treated at home.

"Return cases" of scarlet fever.

During the year, or shortly after its close, there were 173 cases notified as scarlet fever and occurring after the return from isolation of a previous case in the same house. As in previous years, all these were specially visited and enquired into.

In compiling the following statistics only those cases which occurred within 28 days after the previous case had been released from isolation are counted as "return cases."

Of the 173 cases mentioned above 40 have to be excluded for the following reasons: —

Secondary case occurred after the lapse of more than 28 days after the discharge of the primary case	28
Primary case not scarlet fever	2
"Return case" not scarlet fever	10

This leaves 133 as the corrected number of "return cases," compared with 114 in 1909.

These were made up as follows: —

101 "return cases" having relation with 91 infecting cases from Little Bromwich Hospital.
12 "return cases" having relation with 12 infecting cases from Lodge Road Hospital.
2 "return cases" having relation with 3 infecting cases from hospitals outside the City.
18 "return cases" having relation with 14 infecting cases from patients treated at home.

Thus 113 "return cases" followed the return of 103 primary cases from the two City Hospitals.

This number of "return cases" is equal to 6·0 per cent. of the number of cases admitted to the City Hospitals with scarlet fever during 1910.

The "return cases" (18) following the release from isolation of cases treated at home are equal to a percentage of 2·6 of the cases of scarlet fever treated at home and notified during 1910.

Return cases of scarlet fever—(*continued*).

The cases are grouped below according to the number of days which elapsed between the return from hospital of the primary case and the onset of the illness of the "return case":—

	No. of cases.
After an interval of 1 day ...	1
,, ,, 2 days ...	6
,, ,, 3 ...	7
,, ,, 4 ...	9
,, ,, 5 ...	6
,, ,, 6 ...	10
,, ,, 7 ...	8
,, ,, 8 ...	7
,, ,, 9 ...	4
,, ,, 10 ...	7
,, ,, 11 ...	6
,, ,, 12 ...	4
,, ,, 13 ...	9
,, ,, 14 ...	5
,, ,, 15 ...	7
,, ,, 16 ...	4
,, ,, 17 ...	3
,, ,, 18 ...	3
,, ,, 19 ...	3
,, ,, 20 ...	3
,, ,, 21 ...	4
,, ,, 22 ...	1
,, ,, 23 ...	2
,, ,, 24 ...	2
,, ,, 25 ...	5
,, ,, 26 ...	3
,, ,, 27 ...	3
,, ,, 28 ...	1

In every instance enquiries were made by the Assistant Medical Officer of Health as to abnormal conditions in the supposed infecting case by questions put to the parents or friends and (except in cases which had been treated at home) examination of the patient.

The following table gives the conditions which were found or reported in the infecting cases:—

No abnormal condition	30 cases.
Nasal discharge	50 ,,
Sore nostrils only	8 ,,
Epistaxis	3 ,,
Otorrhœa	11 ,,
Sores about body or face ...	4 ,,
Sore throat	2 ,,
Enlargement of tonsils ...	34 ,,
Enlargement of cervical glands	42 ,,
Conjunctivitis, etc.	4 ,,
Ringworm	1 ,,
Other skin diseases	2 ,,
Desquamation	5 ,,
Intercurrent infectious diseases	2 ,,
Other complications	4 ,,

Return cases of scarlet fever—*(continued).*

The following are the complications from which the infecting cases suffered in hospital, from information supplied by the Medical Superintendents:—

No complications	56	cases.
Nasal discharge	24	,,
Sore nostrils only	7	,,
Otorrhœa	11	,,
Sores	22	,,
Conjunctivitis, etc.	3	,,
Bronchitis	1	,,
Adenoids	2	,,
Enlargement of cervical glands	16	,,
Abscesses	3	,,
Nephritis	3	,,
Albuminuria	4	,,
Ringworm	3	,,
Other skin diseases	4	,,
Rheumatism	1	,,
Intercurrent infectious diseases	7	,,

The length of time during which the "infecting cases" were kept isolated is shown below:—

5	cases were kept isolated for		from 37	to 40	days.
34	,,	,,	41	to 50	,,
36	,,	,,	51	to 60	,,
18	,,	,,	61	to 70	,,
6	,,	,,	71	to 80	,,
9	,,	,,	81	to 90	,,
4	,,	,,	91	to 100	,,
9	,,	over	100		,,

DIPHTHERIA.

Diphtheria

The corrected number of cases of diphtheria notified during 1910 was 591. This figure is arrived at after correction for errors of diagnosis, etc., the number of cases originally notified as diphtheria being 676.

The number of deaths from diphtheria was 64—equal to a case mortality of 11 per cent.

The sickness-rate for diphtheria was therefore 1·04 per 1,000 of the population, and the death-rate 0·11 per 1,000.

In the following table are given the number of cases and deaths from diphtheria since 1892, together with the sickness-rate per 1,000 of the population:—

Diphtheria—(*continued*).

DIPHTHERIA.

	Cases notified.	Deaths registered.	Case-mortality per cent.	Sickness rate per 1000.
1892 ...	533	102	19	1·10
1893 ...	387	83	21	0·79
1894 ...	406	91	22	0·83
1895 ...	741	214	29	1·50
1896 ...	*1,194	*293	25	2·35
1897 ...	713	160	22	1·41
1898 ...	689	132	19	1·36
1899 ...	720	147	20	1·40
1900 ...	542	77	14	1·05
1901 ...	533	85	16	1·02
1902 ...	*787	*130	17	1·47
1903 ...	884	135	15	1·66
1904 ...	630	115	18	1·17
1905 ...	698	98	14	1·29
1906 ...	817	93	11	1·50
1907 ...	1012	100	10	1·84
1908 ...	*794	*105	13	1·40
1909 ...	687	89	13	1·22
1910 ...	591	64	11	1·04

*53 weeks.

It will be seen from the sickness-rate that since 1907, when the amount of diphtheria was high, there has been a considerable decrease each year in the amount of diphtheria. In view of the similar decrease after the year 1896, there seems no reason to suppose that this decrease is necessarily permanent.

The low case-mortality is very satisfactory, it being not more than half that prevailing from 10 to 15 years ago.

The death-rate from diphtheria per 1,000 of the population is shown in the following table for each year since 1871 :—

DIPHTHERIA DEATH-RATES.

1871 ...	·22		1891 ...	·09	
1872 ...	·25		1892 ...	·21	
1873 ...	·31	Average	1893 ...	·17	Average
1874 ...	·21	·23	1894 ...	·18	·22
1875 ...	·16		1895 ...	·43	
1876 ...	·16		1896 ...	·58	
1877 ...	·14		1897 ...	·32	
1878 ...	·22	Average	1898 ...	·26	Average
1879 ...	·18	·17	1899 ...	·29	·32
1880 ...	·13		1900 ...	·15	
1881 ...	·14		1901 ...	·16	
1882 ...	·12		1902 ...	·24	
1883 ...	·11	Average	1903 ...	·25	Average
1884 ...	·10	·12	1904 ...	·21	·21
1885 ...	·11		1905 ...	·18	
1886 ...	·18		1906 ...	·17	
1887 ...	·13		1907 ...	·18	
1888 ...	·09	Average	1908 ...	·18	Average
1889 ...	·12	·13	1909 ...	·16	·16
1890 ...	·14		1910 ...	.11	

Diphtheria in great towns.

In the whole of England and Wales the death-rate from diphtheria was 0·12 per 1,000, against 0·11 in Birmingham. The figures for the largest towns in England and Wales are as follows:—

DIPHTHERIA DEATH-RATES.

London	0·09 per 1,000
Liverpool	0·13 ,,
Manchester	0·14 ,,
Birmingham	0·11 ,,
Leeds	0·14 ,,
Sheffield	0·08 ,,
Bristol	0·10 ,,
West Ham	0·15 ,,
Bradford	0·13 ,,
Newcastle	0·14 ,,
Hull	0·17 ,,
Nottingham	0·11 ,,
Leicester	0·04 ,,
Stoke-on-Trent	0·33 ,,
Salford	0·21 ,,
Portsmouth	0·26 ,,

Diphtheria in wards.

In the following table is given the sickness-rate from diphtheria for each Ward in the City:—

	1906.	1907.	1908.	1909.	1910.	Mean of Five Years.
Rotton Park ...	1·36	1·77	1·48	1·28	1·07	1·39
All Saints' ...	1·69	2·34	1·70	1·25	1·12	1·62
Ladywood ...	2·43	2·14	1·61	1·03	1·03	1·65
St. Paul's ...	1·79	1·59	1·63	1·59	0·79	1·48
St. George's ...	1·17	3·19	1·59	1·33	0·78	1·61
St. Stephen's ...	2·47	2·54	1·74	1·45	0·92	1·82
St. Mary's ...	1·44	2·24	1·43	1·38	1·59	1·62
St. Bartholomew's	1·09	2·04	1·10	1·59	1·17	1·40
Market Hall ...	1·38	1·23	1·93	1·37	0·71	1·32
St. Thomas' ...	1·05	2·02	1·20	0·87	1·17	1·26
St. Martin's ...	1·09	2·45	2·05	1·72	0·96	1·65
Edgbaston and Harborne ...	0·61	1·26	1·43	0·69	1·24	1·05
Deritend ...	1·14	1·34	1·19	1·69	0·74	1·22
Bordesley ...	1·84	1·41	1·19	1·16	1·10	1·34
Duddeston ...	2·22	2·73	1·53	1·43	0·83	1·75
Nechells ...	1·31	1·61	1·34	1·30	0·74	1·26
Balsall Heath	1·56	1·54	1·42	1·14	1·39	1·41
Saltley ...	1·44	1·25	1·34	1·19	0·87	1·22
City	1·50	1·84	1·40	1·22	1·04	1·40

It will be noticed that the distribution of the disease amongst the Wards varies greatly from year to year, and is this year quite different from last year.

Spread of diphtheria.

Amongst the staff of one of the hospitals in the City a case of diphtheria occurred in a nurse on 6th January, 1910. She was removed to the City Hospital, and another case developed on 3rd February. As further cases occurred, the staff and patients were bacteriologically examined, and those giving positive swabs were isolated

in the City Hospital. Altogether 21 sufferers and "carriers" were taken into the City Hospital from this institution, the last case being admitted on 24th February. Since then the hospital has been free from diphtheric infection, though during October, 1910, six cases were sent from there to the City Hospital for observation. They proved, however, not to be suffering from diphtheria. Spread of diphtheria—*(continued)*.

There has been no extensive outbreak of diphtheria in any other public institution in the City during the year.

A record of all school cases has been kept, but in no school during any calendar month have there been more than three cases of diphtheria (except in one school, where there were four cases in one month).

There has been a tendency, however, in two of the schools for cases of this disease to crop up during successive months. In both of these schools the succession of cases has now ceased (1911).

There has been no evidence during 1910 of the spread of diphtheria by the agency of milk distribution.

Of the 591 cases of diphtheria, 351 were treated in the City Hospital. Besides these there were 65 cases admitted which afterwards proved not to be suffering from diphtheria. Details of these will be found in the report of the Medical Superintendent of the Lodge Road Hospital. Diphtheria and hospital treatment.

The mortality-rate amongst the cases treated in the City Hospital was 9·7, as compared with 12·9 in those treated at home or in another institution.

During the year 888 swabs were examined by the University of Birmingham at the expense of the City, which were taken from patients in the City by the doctors in charge. Of these 203 were positive and 685 negative. Bacteriological examinations.

Four hundred and forty-eight doses of antitoxin were supplied during 1910 to doctors for the benefit of diphtheria cases in the City, at a cost of about £60. Anti-toxin issued.

WHOOPING COUGH.

There were 215 deaths recorded from whooping cough. This is equal to a mortality-rate of ·38 per 1,000. In the 77 great towns the mortality-rate was ·29. Last year Manchester had a rate of ·56 per 1,000, Liverpool ·58, and West Hartlepool ·66. The death-rate from this Whooping cough.

Whooping cough—(*continued*).

disease during each of the preceding forty years is set out below:—

DEATH-RATE FROM WHOOPING COUGH.

1871	...	·91		1891	...	·66	
1872	...	·75		1892	...	·59	
1873	...	·48	Average	1893	...	·66	Average
1874	...	·67	·80	1894	...	·44	·54
1875	...	1·20		1895	...	·35	
1876	...	·51		1896	...	·76	
1877	...	·98		1897	...	·45	
1878	...	1·19	Average	1898	...	·50	Average
1879	...	·97	·84	1899	...	·33	·52
1880	...	·55		1900	...	·58	
1881	...	·90		1901	...	·42	
1882	...	·79		1902	...	·50	
1883	...	·43	Average	1903	...	·17	Average
1884	...	·70	·69	1904	...	·87	·45
1885	...	·61		1905	...	·29	
1886	...	·23		1906	...	·46	
1887	...	·91		1907	...	·34	
1888	...	·56	Average	1908	...	·55	Average
1889	...	·66	·57	1909	...	·27	·40
1890	...	·47		1910	...	·38	

From the above it will be seen that the average mortality in quinquennial periods shows definite evidence that the rate is declining, so that it may be said that just half as many children now die from whooping cough as did forty years ago.

The ages at death of the 215 children who died are given below:—

Under 1 year	95
1 and under 2 years	79
2 ,, 3 ,, ...	22
3 ,, 4 ,, ...	12
4 ,, 5 ,, ...	3
All under 5 ,, ...	211
5 and under 10 ,, ...	4
All over 10 ,, ...	0
Total ...	215

It will be noted that all except 41 of the deaths occurred amongst children under two years of age.

TYPHOID FEVER.

Typhoid fever.

Seventy-three cases of typhoid fever were notified, as compared with 95 in the previous year. The sickness-rate was, therefore, ·13 per 1,000, as against ·17 per 1,000 in 1909. There were 24 deaths from the disease, as compared with 22 in 1909. The mortality-rate for 1910 was ·04 per 1,000.

In the following table are shown for each year since the Infectious Disease (Notification) Act came into operation (1) the number of notified cases of the disease, (2) the total number of deaths, (3) the percentage mortality, (4) the sickness-rate per 1,000 of the population, and (5) the death-rate per 1,000. The figures for 1890 and 1891 apply to the City as constituted prior to its extension in 1891 :— Typhoid fever—(*continued*).

TYPHOID FEVER.

	Notified Cases.	Deaths.	Case Mortality.	Sickness Rate.	Death Rate.
1890	272†	59	22%	·66	·14
1891	397	77	19%	·93	·18
1892	260	39	15%	·54	·08
1893	489	94	19%	1·00	·19
1894	511	105	21%	1·04	·21
1895	436	82	19%	·88	·17
1896	483*	108	22%	·95	·21
1897	533	89	17%	1·06	·18
1898	637	113	18%	1·25	·22
1899	779	119	15%	1·52	·23
1900	851	179	21%	1·64	·35
1901	615	111	18%	1·18	·21
1902	544*	100	18%	1·01	·19
1903	348	66	19%	·65	·12
1904	248	36	15%	·46	·07
1905	209	38	18%	·39	·07
1906	191	40	21%	·35	·07
1907	248	48	19%	·45	·09
1908	193*	49	25%	·34	·09
1909	95	22	23%	·17	·04
1910	73	24	33%	·13	·04

† 50 weeks. * 53 weeks.

The above table indicates that this disease was less prevalent last year and the year before than in any previous year. This is extremely satisfactory, as typhoid fever is one of the diseases closely associated with insanitary conditions.

The mortality-rate from typhoid fever for the Greater Birmingham area during 1910 was ·03 per 1,000, as compared with a rate for the whole of England of ·05. The highest rates recorded last year were ·17 per 1,000 in Preston, ·18 in Portsmouth, ·22 in Grimsby, and ·28 in Wigan.

Of the 73 new cases of typhoid fever reported in 1910 five almost certainly derived their infection from places outside the City. Origin of typhoid fever cases.

Six cases occurred in institutions in the City. Of these two occurred in a hospital, one being a patient and one a nurse, in a ward where typhoid fever patients were nursed. Three cases were reported from H.M. Prison and one from the City Asylum.

Origin of typhoid fever cases—(*continued.*)

Altogether there were 10 secondary cases, or 13·7 per cent. of the total. Of these five occurred in institutions and five in private houses.

A history of having recently consumed shellfish was obtained in 19 cases (26 per cent.), 15 of these patients having eaten mussels, one having eaten oysters, and three having eaten other shellfish.

In 50 per cent. of the cases some reasonable explanation could be given as to the source of the infection, while in the other 50 per cent. the source of the infection remained quite unknown.

Typhoid fever and pan privies.

The following table shows the number of pan closets existing in Birmingham, together with the number of reported cases of typhoid fever during each of the past ten years. The figures speak for themselves, and are eloquent testimony to the importance of removing decomposable filth from the precincts of dwellings. There are still over 5,000 pan closets in Birmingham.

	No. of Pan-Closets.	Cases of Typhoid Fever.
1901	29700	615
1902	28600	544
1903	25700	348
1904	23200	248
1905	19000	209
1906	15300	191
1907	12100	248
1908	9000	193
1909	7106	95
1910	5509	73

Mortality from typhoid fever.

In the 73 cases of typhoid fever there were 24 deaths, which is equal to a fatality-rate of 33 per cent. This is extremely high, indicating that the type of the disease was a severe one. During periods of small incidence it is frequently noted that the fatality is high, while during periods of large incidence the cases are often of mild type with a low fatality-rate.

Widal's test.

In 64 instances the Widal test for typhoid fever was made at the University of Birmingham at the expense of the Health Department and at the request of medical practitioners. Of these tests 11 gave a positive reaction, 52 were negative, and one doubtful.

DIARRHŒA AND ENTERITIS.

Diarrhœa.

The year 1910 was very similar to 1909 so far as the group of diarrhœal diseases is concerned. There were 211 deaths registered from diarrhœa and 201 from enteritis, a total of 412, as compared with a total of 417 in 1909.

The death-rate from the two diseases was ·72 per 1,000, as against ·74 in the previous year.

The number of deaths from diarrhœa and enteritis, together with the mortality-rate in each year from 1887 to 1910, are set out in the following table:— Diarrhœa and temperature and rainfall.

	Deaths during each year.				During 3rd Quarter.			
	Diarrhœa.	Enteritis.	Total.	Death rate per 1,000.	Mean Temperature.	Mean Temperature of Soil 4ft. deep.	Rainfall in inches.	Days with ·010 or more of rain.
1887	550	60	610	1·46	58·9	—	5·62	31
1888	305	60	365	0·87	55·7	—	9·58	49
1889	465	56	521	1·23	57·6	—	6·62	39
*1890	434	101	535	1·23	58·0	—	7·39	42
1891	320	107	427	0·99	57·3	—	7·27	48
†1892	443	104	547	1·13	57·0	—	9·22	41
1893	828	200	1028	2·11	60·0	—	5·61	46
1894	256	148	404	0·82	54·9	—	7·18	45
1895	605	282	887	1·79	59·6	—	6·45	44
*1896	589	309	898	1·76	57·7	54·6	7·33	47
1897	923	521	1444	2·86	58·3	53·5	7·24	35
1898	668	544	1212	2·37	58·7	54·3	4·50	21
1899	831	580	1411	2·74	61·2	55·9	4·98	34
1900	613	409	1022	1·97	60·2	54·4	5·43	31
1901	792	206	998	1·91	60·7	54·8	5·91	26
*1902	412	122	534	0·99	57·1	52·8	7·51	47
1903	588	136	724	1·36	57·4	52·0	9·85	49
1904	955	155	1110	2·07	58·8	54·1	5·75	31
1905	463	177	640	1·19	58·4	54·1	7·33	34
1906	857	226	1083	1·98	60·9	54·0	2·97	26
1907	237	168	405	0·73	57·5	52·2	6·08	40
*1908	470	210	680	1·20	57·9	52·9	6·94	41
1909	244	173	417	0·74	57·6	52·3	7·63	47
1910	211	201	412	0·72	57·3	52·3	8·24	41

* 53 weeks. † Enlarged City.

The above figures show the precise relationship between the death-rate last year and in previous years. In the same table certain meteorological data are given. These indicate that the third quarter of 1910 was, as regards mean temperature of the air and mean temperature of the soil, what may be described as a cool one. It will be noted that the rainfall during the quarter (8·24 inches) was a large one compared with that registered during the same period in many previous years.

It is probable, therefore, that the year under review owed, as regards the lessening of diarrhœa mortality, a good deal to the fact of the summer being cool and wet. In nearly every town in Great Britain a similar experience was noted.

It is always difficult to estimate the progress made in respect to diseases which are affected by climatic conditions to such an extent as diarrhœa and enteritis

are found to be. From the table above it will be seen that on previous occasions there have been periods of three, four, or five years with low mortality, followed by either single years or a series of years of high mortality: in other words, the mortality varies greatly from time to time.

Diarrhœa and dirty conditions.

But the mortality from diarrhœal diseases is for practical purposes a class mortality. In a previous report it was shown that so far as Birmingham is concerned diarrhœal mortality is largely confined to the dwelling-houses of four rooms or less, and that the exceptions to this rule form almost a negligible number in the total cases. It is probably correct to say that this mortality is due to the inefficiency which is associated with poverty; indeed, in the districts where poverty is most in evidence there will be a real difficulty for anybody to rear children without attacks of diarrhœa as long as the surroundings of the dwelling-house are kept in the dirty condition which is found in many of the courtyards in Birmingham. The mortality from diarrhœa is very much less in rural districts than in the centres of large towns, the difference being as much as three, four, or even five times as great in the case of poor districts in a town compared with rural districts. Probably this difference is largely due to the less contaminated surroundings which usually exist in the rural areas.

Diarrhœa in great towns.

Comparing the mortality in Birmingham from diarrhœa alone with that in the large towns, we get the following figures, which have been extracted from the Registrar-General's annual summary. From these it will be seen that the Birmingham mortality was 52 per cent. below the average in the previous five years, while the other towns in the list varied from 11 per cent. to 67 per cent. below the average.

MORTALITY FROM DIARRHŒA.

	Average 5 years 1905-1909.	1910.	Percentage below average.
London	0·57	0·28	–51
Liverpool	1·08	0·71	–34
Manchester	0·91	0·49	–46
Birmingham	0·82	0·39	–52
Leeds	0·61	0·39	–36
Sheffield	1·13	0·67	–41
Bristol	0·37	0·19	–49
West Ham...	1·16	0·38	–67
Bradford	0·48	0·33	–31
Newcastle	0·48	0·36	–25
Hull	1·04	0·93	–11
Nottingham...	0·85	0·35	–59
Leicester	0·66	0·29	–56
Stoke-on-Trent	...	0·51	...
Salford	0·91	0·52	–43
Portsmouth	0·55	0·25	–55

The age at death and the quarter of the year at which the deaths occurred are shown below :— Diarrhœa at ages.

DEATHS FROM DIARRHŒA AND ENTERITIS.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Under 1 month	4	3	3	0	10
Between 1 and 2 months	5	3	7	7	22
,, 2 and 3 ,,	14	3	18	6	41
,, 3 and 4 ,,	4	2	11	17	34
,, 4 and 5 ,,	5	4	18	8	35
,, 5 and 6 ,,	6	2	11	7	26
,, 6 and 7 ,,	5	2	10	6	23
,, 7 and 8 ,,	4	3	8	4	19
,, 8 and 9 ,,	3	2	6	3	14
,, 9 and 10 ,,	4	1	4	9	18
,, 10 and 11 ,,	0	3	7	3	13
,, 11 and 12 ,,	4	1	10	4	19
Total under 1 year... ...	58	29	113	74	274
Between 1 and 2 years ...	8	11	37	15	71
,, 2 and 3 ,, ...	2	1	10	2	15
,, 3 and 4 ,, ...	2	0	1	0	3
,, 4 and 5 ,, ...	0	1	1	1	3
Total under 5 years ...	70	42	162	92	366
Between 5 and 10 years ...	0	1	1	0	2
,, 10 and 15 ,, ...	0	0	1	0	1
,, 15 and 20 ,, ...	1	0	0	0	1
,, 20 and 25 ,, ...	0	0	0	0	0
,, 25 and 35 ,, ...	0	0	1	1	2
,, 35 and 45 ,, ...	2	0	1	0	3
,, 45 and 55 ,, ...	3	1	2	1	7
,, 55 and 65 ,, ...	3	0	3	4	10
,, 65 and 75 ,, ...	1	4	5	3	13
,, 75 and 85 ,, ...	1	1	3	2	7
At 85 years and upwards	0	0	0	0	0
All ages	81	49	179	103	412

From these figures it will be seen that nearly three-quarters of the cases occurred at ages under one year, and that of these by far the larger proportion occurred during the third quarter and the early part of the fourth.

In view of the fact that deaths from diarrhœa do not as a rule take place among one-half, *i.e.*, the better class portion, of the population of Birmingham, and that the mortality is largely among children under one year of age, attention has naturally been directed to how and why these infants become infected. A suggestion has been widely made that the infection is carried by flies. To a certain extent this may be so, but flies are quite common in many of the other districts, though not perhaps to such a large extent as in the poorer class districts. Diarrhœa and flies.

Diarrhœa and flies—(*continued*).

A record was kept during the summer months of the number of flies caught in 27 different localities in the City, and a chart has been prepared showing week by week the number of flies so caught, together with the number of fatal illnesses from infantile diarrhœa and enteritis commencing in each week. It will be noted that the curves in question do not correspond this year as closely as they did in 1909. (The average duration of the fatal illness during the period shown on the chart was eleven days. This includes, however, several cases in which the illness was said to be of several months' duration.)

A table is appended showing for each station the number of flies caught during each week, which indicates the enormous variation that takes place in different areas of the town in the number of flies present. It will be noted that at one station the maximum number caught in a week in the dwelling-house did not exceed 61, while in another the number was more than 4,000. It will be noted also that the stations vary with great regularity—that is to say, certain houses are situated in places where flies abound, while others have but few.

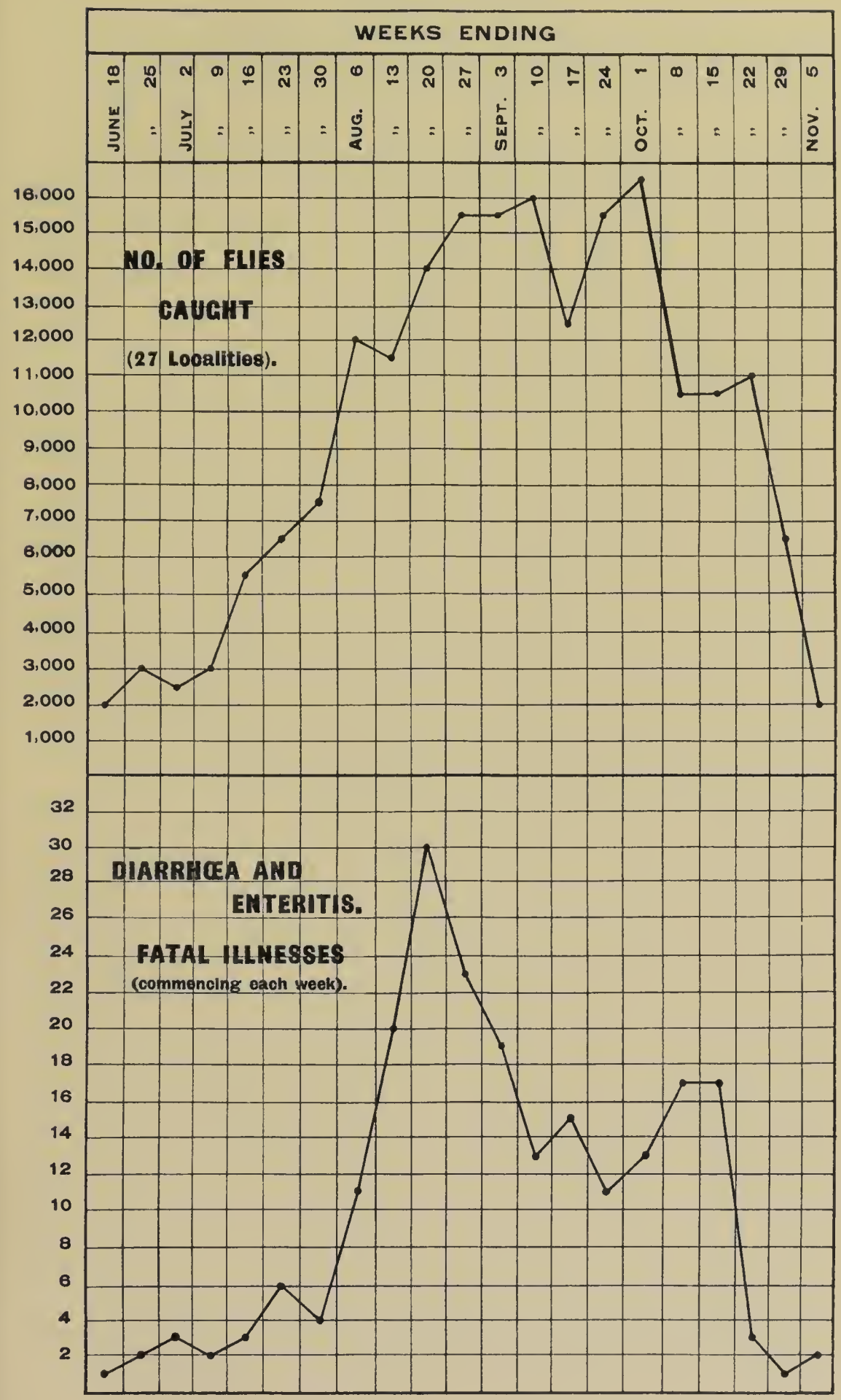
Most of the flies were caught on fly-papers, and no attempt was made to classify these under different names, but 43,430 were caught in fly-traps, and these were found to comprise 30,325 common house-flies, 9,482 lesser house-flies, 2,765 bluebottle-flies, and 858 of other species.

Possibly flies carry infection, but in addition to flies one must not overlook the fact that the whole of the dust in courtyards, on house-tops, and on roads in the poorer neighbourhoods is contaminated with organic matter of animal origin, and that this dirt is carried everywhere by air currents, so that clean, or relatively clean, households in one of the congested districts of the City will possibly get cases of diarrhœa through no fault of the householders themselves.

Diarrhœa and feeding of infants.

Many enquiries have been made in Birmingham as to the relationship between the deaths of infants under six months old and the method of feeding. The table following shows for 1910 the figures in relation to this subject. There is also put down at the foot of this table a summary of the results obtained during the last seven years. It is shown beyond a doubt that of the total number of deaths the larger number occur amongst children artificially fed, so that apparently the death-giving infection is taken in by food. In a previous report it was pointed out that practically the same class of milk went to the poorest houses as to the middle class and better class houses, and that therefore if the infection of diarrhœa is taken in by milk, then the infection is derived at the house rather than at the farm.

CHART No. 5.


WEEKS ENDING
JUNE 18
25
JULY 2
9
16
23
30
AUG. 6
13
20
27
SEPT. 3
10
17
24
OCT. 1
8
15
22
29
NOV. 5
16,000
15,000
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
NO. OF FLIES CAUGHT
(27 Localities).
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
DIARRHŒA AND ENTERITIS.
FATAL ILLNESSES
(commencing each week).

TOTAL NUMBER OF FLIES CAUGHT AT EACH STATION.

Week Ending	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total caught each week.
1910.																												
June 18 (2 counts)..	1	48	—	304	13	3	—	—	21	42	55	26	66	29	84	69	139	29	—	—	7	—	5	2	24	69	20	1,056
,, 25 (3 counts)..	13	34	2	247	29	12	5	5	68	273	124	38	167	94	355	387	586	145	11	35	14	5	44	9	52	145	47	2,946
July 2	37	39	—	221	30	8	2	9	40	106	77	22	143	112	385	351	278	100	6	16	14	15	24	25	74	166	102	2,402
,, 9	66	31	2	324	32	18	11	7	37	91	43	48	165	77	805	321	471	41	10	16	5	20	52	18	135	234	128	3,208
,, 16	26	24	7	256	15	25	21	14	106	589	206	203	294	143	979	191	485	196	10	59	12	26	59	13	159	569	650	5,328
,, 23	55	63	6	546	46	30	9	13	145	899	343	268	537	191	653	293	669	193	9	74	38	25	162	19	165	538	617	6,603
,, 30	116	73	16	640	56	19	24	18	178	562	636	179	568	111	1,090	597	551	336	8	21	41	294	449	31	189	207	531	7,532
Aug. 6	349	233	3	803	33	34	31	23	254	825	1,641	267	890	124	1,308	1,292	1,048	365	14	7	35	462	361	56	258	369	990	12,075
,, 13	522	113	14	781	62	106	19	7	275	1,151	636	329	436	128	1,319	766	820	345	20	171	39	496	336	26	168	868	1,573	11,526
,, 20	331	262	120	979	77	49	86	36	208	1,393	927	287	866	396	996	1,476	1,428	448	61	179	138	208	401	73	458	659	1,619	14,161
,, 27	349	214	94	1,639	68	55	45	218	389	1,315	1,117	219	1,251	136	1,039	1,585	1,268	464	31	89	84	301	750	213	516	578	1,517	15,544
Sept. 3	825	400	56	2,307	97	58	28	140	237	1,317	496	154	1,047	156	1,028	822	1,222	549	13	78	158	652	975	177	599	766	1,195	15,552
,, 10	652	416	40	3,213	69	110	26	90	64	1,037	798	227	1,640	129	1,233	412	569	334	38	265	145	651	239	50	385	1,448	1,868	16,148
,, 17	142	247	24	3,351	47	52	24	72	82	534	1,164	99	568	162	695	417	418	572	33	150	49	315	194	33	350	1,186	1,510	12,490
,, 24	222	320	48	4,034	59	73	16	52	139	612	1,194	109	523	308	899	156	594	1,231	20	147	68	337	439	24	462	1,236	2,089	15,411
Oct. 1	125	269	121	3,611	30	64	5	41	121	968	1,820	245	641	124	1,177	511	666	481	5	92	48	167	672	41	303	1,326	3,081	16,755
,, 8	101	290	55	2,824	18	30	7	70	154	744	453	113	398	70	595	446	339	340	36	45	48	86	225	19	305	861	1,756	10,428
, 15	68	275	29	3,116	18	47	3	90	81	673	217	172	235	51	711	211	749	217	40	39	30	45	144	6	285	953	2,004	10,509
,, 22	33	261	9	3 888	15	56	5	18	159	648	701	177	177	27	340	81	727	132	11	29	28	31	148	35	224	678	2,602	11,240
,, 29	48	292	12	2,612	5	22	2	13	310	262	52	42	146	16	210	25	347	54	8	11	16	18	41	23	88	256	1,711	6,582
Nov. 5	14	144	6	1,107	2	6	—	2	183	41	33	11	45	6	27	10	116	4	2	1	3	8	10	14	17	161	276	2,249
,, 12	4	45	—	185	3	5	—	5	73	6	1	11	35	2	7	2	29	1	3	—	1	—	12	1	4	42	59	536
,, 19 (2 counts)..	1	16	—	28	—	1	—	2	19	2	1	5	7	1	4	1	16	—	—	—	—	—	4	—	—	—	19	127
	4,100	4,109	664	37,016	824	883	369	945	3,343	14,030	12,735	3,251	10,845	2 593	15,939	10,422	13,535	6,574	389	1,524	1,021	4,162	5,728	908	5,220	13,315	25,964	200,408

Methods of Feeding the Infants under Six Months old who died of Diarrhœa during the Third Quarter.

AGE.	Number of Deaths.	Breast alone.	Breast with Spoon Food.	Breast with Bottle.	Bottle with Cow's Milk alone.	Bottle with Cow's Milk and other Foods.	Bottle with Condensed Milk only.	Bottle with Condensed Milk and other Food.	Other Foods from Bottle or with Spoon.	Tubeless Bottle used.	Tube Bottle used.
Under 1 month	3	3	...	...	...	...	...	...	...	...	...
1 and under 2 months ...	9	2	...	...	1	3	1	1	1	2	3
2 ,, 3 ,, ...	14	3	...	3	3	1	4	...	...	1	6
Total under 3 months ...	26	8	...	3	4	4	5	1	1	3	9
3 and under 4 months ...	12	2	...	...	2	2	3	3	...	2	6
4 ,, 5 ,, ...	18	1	1	1	5	4	3	1	...	3½	9½
5 ,, 6 ,, ...	11	...	...	1	4	3	...	2	...	3½	6½
Total 3 to 6 months ...	41*	3	1	2	11	9	6	6	...	9	22
Total under 6 months, 1910	67*	11	1	5	15	13	11	7	1	12†	31†
,, ,, ,, 1909	93	16	11	8	35	5	10	5	3	33	31
,, ,, ,, 1908	188	30	22	11	86	13	16	5	5	53	84
,, ,, ,, 1907	68	2	8	7	29	14	4	1	3	27	32
,, ,, ,, 1906	327	26	20	42	143	29	32	23	12	78	198
,, ,, ,, 1905	178	16	17	11	82	25	17	8	2	59	84
,, ,, ,, 1904	408	37	14	50	194	67	25	12	9	71	279
Total for 7 years ...	1329	138	93	134	584	166	115	61	35	333	739

* In three cases no details were obtainable.

† In a few instances the kind of bottle was not stated.

INFLUENZA.

There was no serious outbreak of this disease during 1910. The following table shows the deaths from influenza in each of the past twenty years:— Influenza.

1891	...	244	1901	...	90
1892	...	88	1902	...	76*
1893	...	123	1903	...	63
1894	...	29	1904	...	68
1895	...	121	1905	...	63
1896	...	41*	1906	...	72
1897	...	59	1907	...	81
1898	...	89	1908	...	158*
1899	...	150	1909	...	90
1900	...	185	1910	...	68

* 53 weeks.

ERYSIPELAS.

The number of cases of erysipelas and of deaths from this disease are set out below, together with the mortality-rate:— Erysipelas.

	Cases.	Deaths.	Percentage Mortality.
1900	678	26	3·8
1901	726	23	3·2
1902	762*	30*	3·9
1903	644	22	3·4
1904	597	29	4·9
1905	595	31	5·2
1906	589	23	3·9
1907	599	18	3·0
1908	476*	10*	2·1
1909	507	25	4·9
1910	542	19	3·5

* 53 weeks.

The unusually high mortality-rate observed in 1909 was not maintained last year, the death-rate falling to about the normal level.

PUERPERAL FEVER.

Certain statistics in regard to puerperal fever are Puerperal fever.

Puerperal fever (*continued*).

given below, showing that the number of cases and the mortality during 1910 were fairly low:—

	Cases.	Deaths.
1900	39 ...	26
1901	32 ...	28
1902	35 ...	22
1903	31 ...	21
1904	36 ...	27
1905	40 ...	24
1906	28 ...	19
1907	47 ...	29
1908	17* ...	8*
1909	26 ...	15
1910	29 ...	23

* 53 weeks.

The deaths from puerperal fever were in the proportion of one in every 648 births. In previous years the proportion has been as follows:—

1900 ...	One death to 652 births.
1901 ...	,, 598 ,,
1902 ...	,, 777 ,,
1903 ...	,, 803 ,,
1904 ...	,, 626 ,,
1905 ...	,, 658 ,,
1906 ...	,, 843 ,,
1907 ...	,, 539 ,,
1908 ...	,, 2018 ,,
1909 ...	,, 999 ,,
1910 ...	,, 648 ,,

ACCIDENTS OF CHILDBIRTH.

Childbirth.

In addition to the 23 women who died from puerperal fever, there were 29 others whose deaths were put down to condition associated with pregnancy or childbirth. This is equivalent to one death in every 514 births, or, taking puerperal fever and other accidents of childbirth together, one in 288.

MIDWIVES ACT.

Midwives Act.

Few towns can have better opportunities for supervising the work of midwives than Birmingham. There is on the one hand an excellent compliance with the provisions of the Notification of Births Act. In the

Midwives Act—(*continued*).

poorer class districts notification is almost absolutely complete, and in this way a record is available within two days as to whether the birth was attended by a midwife or not, so that the practice of each midwife can be effectively controlled. Every house at which a birth has occurred in the poorer class districts—to the number of 11,738—was visited in 1910 by one of the Health Visitors, who, in addition to making other enquiries, notes the name of the midwife in attendance if this is not already known. In this way the registers of the midwives can be checked with considerable exactitude.

Number of Midwives.

Two hundred and twenty-three midwives notified under the Midwives Act their intention of practising midwifery in the City of Birmingham during 1910. In the course of the year 25 of these ceased to practise here for the following reasons, leaving 198 midwives on the register on December 31st:—

Removed from district	8
Given up work	3
Died	0
Removed from Midwives' Roll ...	1
Temporarily employed here	13

These midwives attended 9,439 births in 1910, as compared with 9,238 in 1909 and 9,244 in 1908, the total number of births registered being 14,898.

From the following table it will be noted that a large number of midwives attend less than 50 births per annum, so that the total remuneration obtained by them would be quite insufficient to enable them to live.

	Number of Midwives		
	1908.	1909.	1910.
Less than 50 births	96	71	80
Between 50 and 100 births ...	42	45	35
,, 100 and 150 ,, ...	14	12	14
,, 150 and 200 ,, ..	6	5	11
Over 200 births	8	9	5
Midwives residing out of City ...	?	44	44
Monthly Nursing only	?	8	8
Total midwives on roll	200	194	198

If 200 births per annum is considered full work for a midwife, then less than 50 midwives could undertake all the work done by the nearly 200 women who practise in Birmingham at any one time.

Midwives and medical help.

Under the rules of the Central Midwives Board the midwives reported the following cases in which they had advised that medical help should be obtained during 1910:—

Delayed or difficult labour ...	165	Umbilical hæmorrhage ...	3
Abnormal presentation ...	89	Phlegmasia dolens	2
Lacerated perineum ...	57	Cystitis	2
Adherent or retained placenta	54	Excessive sickness	2
Debility of child	47	Heart failure	2
Hæmorrhage...	45	Inflammation of uterus ...	2
High temperature	43	Inflamed breast	2
Ophthalmia	28	Jaundice	2
Abortion	18	Ulcerated Mouth	1
Contracted pelvis	12	Cleft palate	1
Premature birth	11	Growth on child's head ...	1
Unsatisfactory progress ...	10	Unusual birth marks ...	1
Convulsions	8	Child unable to suck ...	1
Debility of mother ...	7	Inflamed umbilicus ...	1
Prolapse of funis	7	Pemphigus neonatorum ...	1
Exhaustion	6	Hydramnios	1
Bronchitis	6	Growth on uterine walls ...	1
Asphyxiated infant	5	Puerperal fever	1
Twinbirth	5	Influenza	1
Stillbirth	4	Pneumonia	1
Varicose veins	4	Asthma	1
Deformity of child	4	Enlarged glands	1
Eclampsia	3	Dropsy	1
Placenta prævia	3	Abscess of face	1

It will be observed that the total number (674) is considerably greater than in 1909, when 540 such reports were received. In 1908 the number was 343. It is evident that the midwives are now taking greater care to report these illnesses.

In 29 instances the midwives reported the death of the infant and in one instance the death of the mother before the arrival of a medical man.

For a number of years insistence has been placed on the recording of the temperatures of the mother in a booklet supplied to the midwives by the Health Department. There is a good compliance with this request, except in the case of a few of the older women who have bad eyesight and cannot read a thermometer, or in the case of others who cannot read. This procedure is found in practice to be so valuable that it ought to be made one of the compulsory duties to be carried out by every midwife.

Neglect of rules by midwives.

During the year the following breaches of the Act or rules have been dealt with:—

Neglect of rules by midwives—(*continued*).

On May 10th Midwife No. 18436 was summoned to appear before the Local Supervising Authority for not advising that medical help be sent for in a case of ophthalmia, and also for other breaches of the rules. The Authority decided that a *prima facie* case of negligence had been established against the midwife, and reported her to the Central Midwives Board, who later removed her name from the roll and cancelled her certificate.

On December 13th Midwife No. 16404 was charged with not advising that medical assistance be sent for in a case where serious symptoms existed. After hearing the midwife's explanation the Local Supervising Authority cautioned her in regard to her future conduct.

The following midwives were cautioned in regard to breaches of the rules:—

Midwife No. 12054: For failing to notify that she advised the calling in of medical help.

Midwife No. 4160: For not advising that medical help be sent for in a case of ophthalmia.

Midwife No. 4320: For not notifying a still-birth.

Midwife No. 16404: For not advising that medical assistance be sent for in a case of abnormal presentation.

Midwife No. 373: For not advising that medical assistance be sent for in a case of abnormal presentation.

Midwife No. 19703: For not advising that medical assistance be sent for in a case of abnormal presentation.

Midwives suspended.

Seventeen midwives were suspended during the year for the following causes:—

(*a*) The occurrence of puerperal fever in 15 instances.

(*b*) The midwife herself suffering from septic ulceration of the leg.

(*c*) The midwife herself living in a house where scarlet fever existed.

During the year proceedings were taken against five women for practising midwifery for gain otherwise than under the direction of a qualified medical practitioner without being certified, as required by the Midwives Act, 1902.

Of the 29 puerperal fever cases which occurred during 1910 22 were in confinements at which a midwife was in attendance, and seven in those attended by a medical man.

STILL-BIRTHS.

Still-births.

Two hundred and twelve still-births were reported by midwives, as compared with 262 during 1909.

The condition of the infant was found on the visit of the Midwife Visitor to be as follows:—

Condition of Child and Presentation.	Total still-births.	Period of Gestation.				
		Full time.	8 months.	7 months.	6 months.	Under 6 months.
Macerated	88	33	20	27	7	1
Not macerated ...	124	62	16	31	14	1
Vertex	156	73	28	39	14	2
Breech	23	15	1	5	2	0
Footling	20	4	6	9	1	0
Transverse	1	0	0	0	1	0
No information ...	12	3	1	5	3	0

It will be noted from the above that a considerable number of the infants found to be still-born were full-time infants not in any way macerated, and therefore indicating that possibly with better recognition of the conditions the child might have been born alive.

TUBERCULOSIS (ALL FORMS).

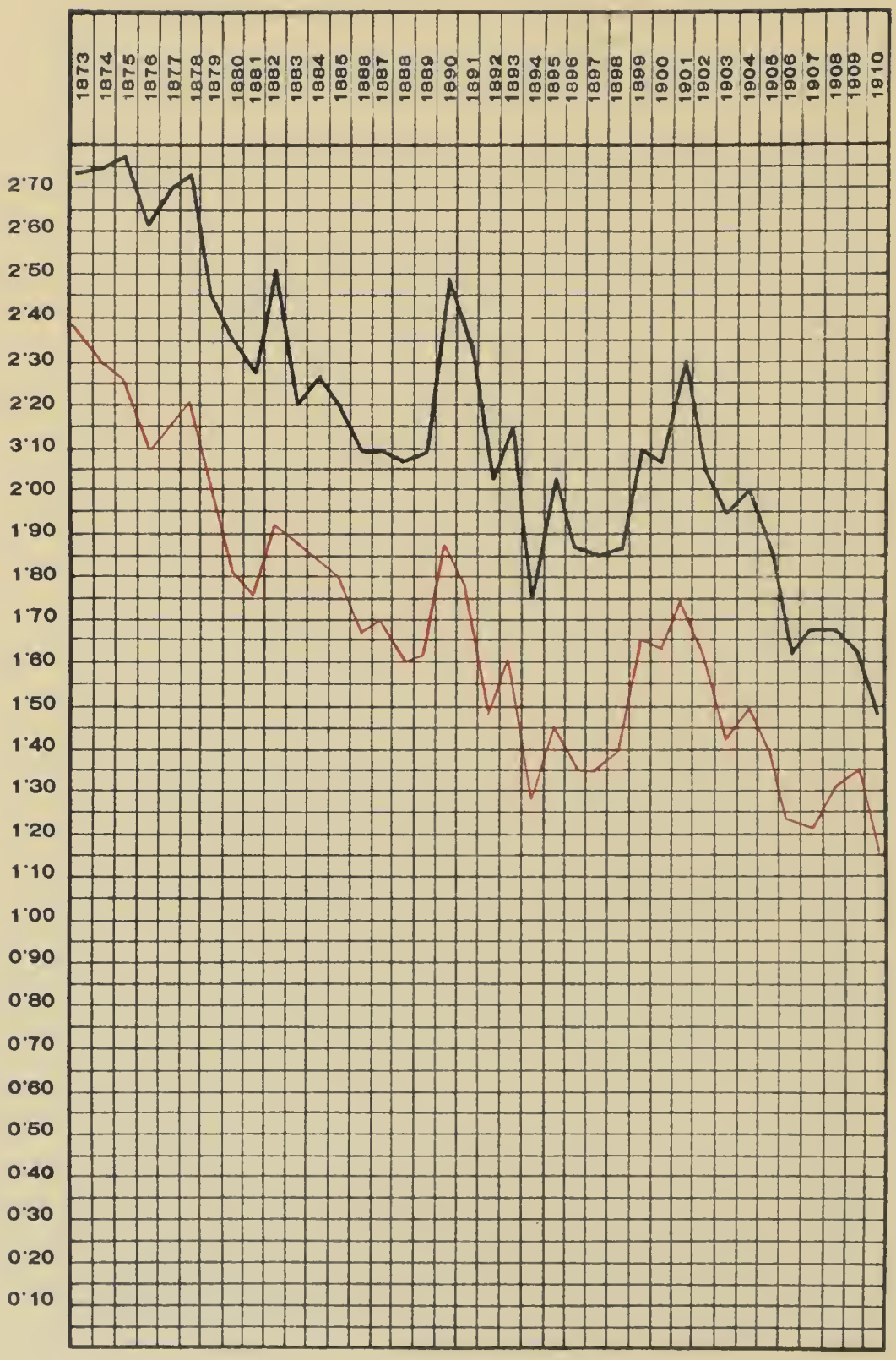
Tubercular diseases.

The accompanying table shows that the mortality-rate from all forms of tuberculosis is a steadily declining one. During 1910 the death-rate of 1·48 per 1,000 was 21 per cent. below the mean rate for the preceding ten years:—

DISEASE.	1899	1900	1901	*1902	1903	1904	1905	1906	1907	*1908	1909	1910
Abdominal Tuberculosis	78	104	131	92	113	107	94	68	77	53	48	38
Tubercular Meningitis	63	56	88	63	73	73	68	75	73	72	51	76
Phthisis	841	847	903	874	754	806	759	672	675	741	751	657
Other forms of Tuberculosis	96	71	83	64	85	85	78	69	97	87	64	75
Total deaths	1078	1078	1205	1093	1025	1071	999	884	922	953	914	846
Mortality rate	2·10	2·08	2·30	2·04	1·93	2·00	1·84	1·62	1·67	1·67	1·63	1·48

*53 weeks.

CHART No. 6.



DEATH RATE PER 1,000.

TUBERCULOSIS (ALL FORMS) ——

TUBERCULOSIS OF LUNGS ——

Tubercular diseases—(*continued*)

The mortality-rate for last year was 46 per cent. below that of the year 1873. Notwithstanding this, however, the total number of deaths from this one cause, viz., 846, represents one in every nine of the total deaths occurring during the year. The chart on the opposite page shows for each year for which we have statistics the mortality-rate in Birmingham from all forms of tuberculosis and from tuberculosis of the lung (phthisis) only.

Tuberculosis of the Lung (Phthisis).

Phthisis.

This special variety of tuberculosis caused 657 out of the 846 deaths, equal to a mortality-rate of 1·15 per 1,000 of the population. As in former years, males suffered very much more severely than females from this variety of tuberculosis, as is shown in the following table of death-rates from phthisis among males and females since 1904:—

DEATH-RATE FROM PHTHISIS.

	Males.	Females.
1904	2·00 ...	1·03
1905	1·94 ...	0·89
1906	1·66 ...	0·82
1907	1·67 ...	0·80
1908	1·85 ...	0·79
1909	1·73 ...	0·96
1910	1·54 ...	0·79

If instead of taking figures for all males and all females only those between the ages of 15 and 55 are dealt with, then the mortality-rate amongst males was 2·15 in 1910 and 1·16 among females—that is to say, two men died for every one woman from phthisis.

The following table shows the total number of people who died during the five years 1906 to 1910 inclusive from phthisis at several age groups, together with the number of males and females and the ratio between male and female deaths at each of these age groups:—

DEATHS FROM PHTHISIS.

	Total.	Males.	Females.	No. of Males to 100 Females.
Under 5 years	74 ...	37 ...	37 ...	100
5 and under 10	44 ...	16 ...	28 ...	57
10 ,, 15	41 ...	15 ...	26 ...	58
15 ,, 20	172 ...	92 ...	80 ...	115
20 ,, 25	280 ...	167 ...	113 ...	148
25 ,, 35	856 ...	542 ...	314 ...	173
35 ,, 45	912 ...	630 ...	282 ...	224
45 ,, 55	644 ...	440 ...	204 ...	216
55 ,, 65	370 ...	275 ...	95 ...	289
Over 65 years	103 ...	77 ...	26 ...	296

Phthisis (*continued*)

It is very significant that while the deaths among boys under 15 years old are much fewer than those among girls, as soon as the age of 15 is passed—that is, as soon as the working period of life begins—the male mortality greatly exceeds the female, and the excess becomes more and more marked at each successive age period.

Similar figures are given in the next table relating to the notified cases of phthisis during the year 1910 : —

NOTIFIED CASES OF PHTHISIS.

	Total Cases.	Males.	Females.
Under 5 years ...	10	5	5
5 and under 10 years ...	89	50	39
10 „ 15 „ ...	121	59	62
15 „ 20 „ ...	144	77	67
20 „ 25 „ ...	219	96	123
25 „ 35 „ ...	499	239	269
35 „ 45 „ ...	353	202	151
45 „ 55 „ ...	269	184	85
55 „ 65 „ ...	101	73	28
Over 65 years	38	29	9
Total	1,843	1,014	829

In considering the above figures it must be borne in mind that notification was compulsory in relation to Poor Law patients only during 1910, and voluntary as regards other patients.

The number of deaths and mortality-rate at each age group from phthisis, together with the mortality from the other forms of tuberculosis, are shown in the accompanying table : —

Ages.	Abdominal Tuberculosis. Deaths.	Rate per 1,000	Tubercular Meningitis. Deaths.	Rate per 1,000	Phthisis. Deaths.	Rate per 1,000	Other forms of Tuberculosis. Deaths.	Rate per 1,000
0	13	·87	24	1·60			15	1·00
1	13	·95	22	1·61			8	0·59
2	3	·22	11	0·79	17	·25	1	0·07
3	1	·08	3	0·23			3	0·23
4	0	—	4	0·31			1	0·08
5	4	·07	7	0·12	4	·07	8	0·13
10					7	·12		
15					24	·41		
20					60	·98		
25					157	1·62		
35	4	·01	5	0·01	169	2·45	39	0·09
45					138	2·85		
55					68	2·29		
65					12	·82		
75					1	·21		

Phtnisis—(*continued*).

Unfortunately, statistics for phthisis mortality in other towns are not published by the Registrar-General, so that it is impossible to compare the rate for Birmingham with that in the great towns. From figures obtained from various annual reports it appears, however, that the Birmingham mortality-rate for phthisis compares favourably with that in many of the other large cities.

Measures in Operation for the Prevention of Tuberculosis.

Prevention of Tuberculosis.

In Birmingham it is held that the most important measures in the prevention of all forms of tuberculosis are the general measures for bettering the conditions under which the people live and work. Wherever poverty, with its concomitants, exists, there phthisis and other forms of tuberculosis are particularly prevalent. The following table shows the mortality-rate for a number of years, together with the mean rate for each Ward in the City. The last column shows for 1910 the percentage above or below the rate for the whole City. St. George's, St. Stephen's, St. Mary's, St. Bartholomew's, and Deritend Wards show percentages of from 40 to 86 per cent. above the rate for the whole City, while Edgbaston and Harborne, Saltley, Rotton Park, Balsall Heath, and Bordesley show percentages varying from 19 to 46 per cent. below:—

PHTHISIS DEATH RATES IN WARDS.

Ward.	1906.	1907.	1998.	1909.	1910.	Mean of 5 years.	Percentage above below City.
Rotton Park ...	0·75	0·79	1·07	1·19	0·72	0·90	− 28
All Saints'	1·29	1·12	1·31	1·16	1·23	1·22	− 2
Ladywood	1·13	1·57	1·45	1·40	0·99	1·31	+ 5
St. Paul's	1·46	1·80	1·63	1·51	2·01	1·68	+34
St. George's ...	1·86	1·99	1·59	2·08	1·41	1·79	+43
St. Stephen's ...	2·04	2·02	1·87	1·86	2·17	1·99	+59
St. Mary's	1·22	2·54	2·52	3·07	2·31	2·33	+86
St. Bartholomew's	1·50	1·74	2·02	2·04	2·06	1·87	+50
Market Hall ...	1·91	1·79	1·82	1·14	0·95	1·52	+22
St. Thomas' ...	2·16	1·33	1·66	1·74	1·70	1·72	+38
St. Martin's ...	1·75	1·37	1·88	1·45	1·40	1·57	+26
Edgbaston and Harborne	0·64	0·63	0·85	0·66	0·55	0·67	− 46
Deritend	1·64	1·77	2·07	1·88	2·20	1·91	+53
Bordesley	0·95	0·98	0·90	1·18	0·94	0·99	− 21
Duddeston	1·79	1·56	1·26	1·29	1·15	1·41	+13
Nechells	1·28	1·52	1·31	1·49	1·21	1·36	+ 9
Balsall Heath ...	0·85	0·92	1·32	1·22	0·72	1·01	− 19
Saltley	0·71	0·49	1·17	1·21	0·90	0·90	− 28
City	1·23	1·22	1·30	1·34	1·15	1·25	

Prevention of Tuberculosis—(*continued*).

The bad housing conditions, the bad workshop conditions, as well as the insufficient food which many of the people in the worst areas of Birmingham suffer from, require to be dealt with, and as a matter of fact these conditions are being dealt with in various ways by various organisations. It is undoubtedly possible to prevent the infection spreading. The evidence which every year is impressing itself upon those who are actively engaged in examining patients suffering from consumption is overwhelmingly strong as to the large part played by infection in the production of the disease. Innumerable instances come to light every year in which one member of a family formerly without a history of tuberculosis becomes infected, and in which his illness is speedily followed by two, three, or even four others in the family becoming affected. Such cases used to be quoted as illustrating the hereditary acquisition of the disease.

Again, numerous instances come to light every year of a husband or wife becoming affected and infecting his or her partner or the children. It is therefore of the highest importance that the general public should be made aware of the infectiousness of consumption. Possibly, when the public are sufficiently alive to the question, they will insist on the proper isolation of infectious cases in sanatoria, homes, or colonies. During the past few years great progress has been made in Birmingham in the direction of educating the public on these lines. Largely this is due to the notification of the cases and the subsequent visitation and instruction which is given. Particularly within the last two or three years has the Sanatorium drawn attention to this aspect of the problem of the prevention of tuberculosis, and impressed a large part of the public with the necessity for taking care of infectious persons.

Visitation by competent inspectors has done much, and will do a great deal in the near future, in the prevention of the disease. At present there are three Visitors who devote the whole of their time to this work in the City, and a fourth Visitor will shortly be appointed. Even with this staff it will be difficult to visit often the 3,000 or 4,000 homes in which consumptives reside.

Sanatorium Treatment.

Sanatorium treatment of phthisis.

There are now two special sanatoria administered by the Health Department—the one at Salterley Grange

Sanatorium treatment of phthisis—(*continued*).

with 40 beds and the other at Yardley Road with 50 beds for educational treatment. The sending of a patient to either of these sanatoria has had a remarkable effect on him and his friends, both as regards training him to prevent infection from spreading to others and in showing him how to live in the most healthful manner so that his life may be prolonged. The Salterley Grange Sanatorium deals only with early cases, while at Yardley Road cases are accepted for treatment many of which would be unsuitable for admission to Salterley Grange Sanatorium.

At the end of 1910 a careful examination was made of the patients who had been treated at Salterley Grange Sanatorium during the year 1909, the first year it was open for patients.

It will be remembered that during the first year the number of patients admitted for treatment had to be limited on account of certain difficulties that occurred as regards the water supply. For this reason the total number of cases in which treatment was completed during the year was 47.

For one reason or another a certain number of these have had to be eliminated from the returns showing the results of their treatment at the Sanatorium. Three were dismissed after a short stay at the Sanatorium on account of contagious disease, severe epilepsy, and breaking of rules respectively. In addition to these there were an unusually large number who left long before they should have done. This is the experience which all free sanatoria have when they are first started. Since the Sanatorium has been in full working order, however, the number of patients who have left before the completion of their treatment has been practically nil, and, moreover, there have been very many fewer breaches of discipline on the part of the patients.

Deducting the three people who were dismissed and the seven who left before the completion of their term of treatment, there remained 37 patients who completed the course of treatment during 1909. These people have returned, and, with certain exceptions, each has since been examined at intervals. In the table appended will be found a detailed statement in regard to each particular patient:—

PATIENTS DISCHARGED FROM SALTERLEY GRANGE SANATORIUM DURING THE YEAR 1909.

Sex.	Age.	Report No.	Previous Occupation.	Present Occupation.	Length of stay in Sanatorium and Date of Discharge.	Present Conditions.	General Remarks on Medical Examination.
Male ...	24	3	Railway Porter	Railway Porter	28 weeks. July 20th.	Working full time. Home conditions good.	Nov. 1910. Condition very good on examination. At work. Lungs practically clear.
Female	15	6	Nil	Domestic Servant	18 weeks. May 18th.	Working full time. Conditions good.	Nov. 1910. No cough ; still gaining weight.; chest conditions quiescent. At work on full wages. Has done extremely well.
Male ...	16	10	Rent Collector	Insurance Agent	28 weeks. July 24th.	Working full time. Home conditions fair.	Nov. 1910. Feeling well, no cough. At work on full wages. Signs show quiescence.
Female	25	18	Nil	Domestic Servant	22 weeks. June 19th.	Has gone to Canada. Conditions reported good.	
Male ...	20	19	Tin Plate Worker	Carter	28 weeks. July 24th.	Working full time. Home conditions good.	Nov. 1910. Slight cough, appetite good, some signs remain in chest. Chest continues to improve.
Male ...	26	20	General Labourer	General Labourer	7 weeks. March 9th.	Working full time. Home conditions good.	Has not come up for medical re-examination.
Male ...	29	21	Working Baker	Not known	5 weeks. Feb. 11th.	... ...	Dismissed for insubordination.
Male ...	18	22	Brass Dresser	Brass Dresser	23 weeks. June 26th.	Working full time. Home conditions fair.	Nov. 1910. No cough. Chest condition very satisfactory.
Female	25	23	Domestic Duties	Domestic Duties.	4 weeks. Feb. 11th.	... ...	Dismissed for contagious disease.
Male ...	27	25	Iron Polisher	Iron Polisher	5 wks. Left against advice Feb, 19th.	Working occasionally. Conditions indifferent.	Jan. 1911. Has had pleurisy recently ; still continues at work as a polisher. Chest conditions not satisfactory.

Male ...	28	26	Steel Polisher	Nil	28 weeks. July 24th.	Home conditions fairly good.	Nov. 1910.	Cannot get work to do. Chest fairly satisfactory.
Male ...	23	27	Warehouseman	Packer	9 weeks. March 10th.	Working full time. Home conditions good.	Nov. 1910.	Chest conditions satisfactory.
Female	22	28	Domestic Servant	Domestic Servant	29 weeks. July 31st.	Died Dec. 14th, 1910.		Did not respond to treatment at Sanatorium; only slight improvement on discharge.
Male ...	36	42	Packer	Packer	7 weeks. Feb. 27th.	Working full time. Home conditions fair.		Has not come up for medical re-examination.
Female	32	43	Ironer	Ironer	13 weeks. April 10th.	Working; home conditions very bad.	Nov. 1910.	"Improvement well maintained." Improved and did well at Sanatorium, but returned to insanitary home and a good deal of poverty.
Female	23	47	Shop Assistant	Shop Assistant	16 weeks. April 29th.	Working full time. Home conditions good.	Nov. 1910.	Feels well; earns more money. Chest conditions continue satisfactory.
Male ...	20	52	Barman	Clothier's Traveller	28 weeks. July 24th.	Working full time at Cheltenham.		Dr. Traill reports, "Physically very fit; disease very quiescent; weight improved."
Female	19	54	Dressmaker.	Nil	28 weeks. July 24th.	Not working. Home conditions unfavourable.		Did not respond to treatment. Chest not improved. On return has lived in underground kitchen. No poverty. Died Feb. 2nd, 1911.
Male ...	26	57	Stationary Engine Driver	Metal Worker	16 weeks. April 29th.	Working full time at unsuitable work. Home conditions fair.	Nov. 1910.	No cough. Appetite very good. Chest conditions good.
Male ...	35	75	Insurance Agent	Insurance Agent	6 wks. (left against advice), Feb. 20th.	Not working; rapidly failing.	June 1910.	Not feeling well. Chest signs get worse.

PATIENTS DISCHARGED FROM SALTERLEY GRANGE SANATORIUM DURING THE YEAR 1909—*continued.*

Sex.	Age.	Report No.	Previous Occupation.	Present Occupation.	Length of stay in Sanatorium and Date of Discharge.	Present Conditions.	General Remarks on Medical Examination.
Male ...	30	78	Brass Worker	Brass Worker	23 weeks. Aug. 14th.	Working full time. Home conditions fair.	Nov. 1910. No cough. Chest condition good.
Female	35	81	Health Visitor	Clerk	28 weeks. Aug. 21st.	Working half-time.	Continues to improve. Doing well generally.
Male ...	23	90	Policeman	Nil	14 weeks. June 9th.	Not working. Out of City.	Did not do well at Sanatorium. Apparently failing. Not medically re-examined.
Female	21	104	Domestic Servant	Nil	36 weeks. Dec. 29th.	In workhouse infirmary. Home conditions bad.	May 1910. Did not do well at Sanatorium. Returned to condition of poverty. Chest signs getting worse.
Female	25	109	Typist	Clerk	18 weeks. Aug. 24th.	Working full time. Home conditions good. At Evesham.	Not medically examined. Said to be doing very well.
Male ...	21	106	Brass Filer	Nil	15 weeks. June 23rd.	Died October 29th, 1910 Home conditions unfavourable.	Other tubercular cases in home. Poor food on return. Died 16 months after leaving Sanatorium.
Female	21	110	Solderer	Solderer	17 weeks. Aug. 14th.	Working full time. Married since leaving. Home conditions good.	Nov. 1910. Feels very well. Chest conditions very satisfactory.
Female	24	114	Brass Worker	Domestic Duties & Brass Worker	17 weeks. July 14th.	Working intermittently. Married since leaving. Home conditions bad.	Getting rapidly worse. Husband probably now infected. Wife did not tell husband that she had suffered from tuberculosis. Has not come up for re-examination.

Male ...	38	125	Stores Clerk	Stores Clerk	6 wks. (left against advice), May 29th.	Working full time. Home conditions good.		Has not come up for examination since Jan., 1910. Then satisfactory. Did very well.
Male ...	31	126	Railway Inspector	Railway Inspector	14½ weeks. July 24th.	Working full time. Home conditions good.	Dec. 1910.	Chest condition very satisfactory. General condition exceedingly good.
Female	20	130	Press Worker	Press Worker	5 wks. (left against advice), May 22nd.	Working intermittently. Home conditions fair.	Nov. 1910.	Lung conditions getting rapidly worse.
Male ...	27	140	Brass Dresser	Nil	17 weeks. Dec. 18th.	Not working. Home conditions good.	Nov. 1910.	Chest and other conditions much improved.
Male ...	30	149	Glass Works Labourer	Nil	33½ weeks. Dec. 24th.	Not working. Home conditions fair.	Feb. 1911.	Has gained weight. Appetite good. Signs show quiescence. Gave up work because fumes aggravated cough.
Female	15	155	Domestic Servant	Shop Assistant	36 weeks. Dec. 29th.	Working full time. Home conditions good.	Nov. 1910.	Chest and other conditions satisfactory.
Male ...	30	166	Baker	Nil.	5 weeks. July 22nd.	Epileptic. Sent home.		
Female	24	169	Brass Scrap Sorter	Domestic Duties	13 weeks. Aug. 21st.	Married since leaving. Home conditions good.	Nov. 1910.	Doing well; no cough.
Male ...	28	171	Tram Conductor	Tram Conductor	28 weeks. Dec. 11th.	Working full time. Home conditions good.	Nov. 1910.	Conditions satisfactory.
Female	24	176	Dress-maker	Dress-maker	30 weeks. May 12th.	Working. Home conditions good.	Nov. 1910.	Improvement maintained. Has gained weight. Full wages.
Female	32	199	Domestic Duties	Domestic Duties	23 weeks. Nov. 27th.	Working. Home conditions good.	Nov. 1910.	Improvement well maintained. Has gained weight.

PATIENTS DISCHARGED FROM SALTERLEY GRANGE SANATORIUM DURING THE YEAR 1909—*continued.*

Sex.	Age.	Report No.	Previous Occupation.	Present Occupation.	Length of stay in Sanatorium and Date of Discharge.	Present Conditions.	General Remarks on Medical Examination.
Female	30	203	Domestic Duties	Domestic Duties	19 weeks. Nov. 20th.	Working. Home conditions good.	Nov. 1910. Chest conditions very satisfactory.
Male ...	30	207	Tram Motor-man	Tram Motor-man	16 weeks. Oct. 16th.	Working full time. Home conditions good.	Nov. 1910. Chest conditions very satisfactory. This was a first-class case.
Female	23	210	Penmaker	Penmaker	1 wk. (left against advice), June 30th.	Home conditions indifferent.	Not re-examined.
Female	48	228	Domestic Duties	Domestic Duties	13½ weeks. Sept. 25th.	Working. Home conditions good.	Jan. 1911. Very well, has gained weight. Chest conditions not entirely satisfactory, but have not increased.
Male ...	25	231	Cycle Polisher	Cycle Polisher	14 weeks. Oct. 2nd.	Working full time. Home conditions good.	Nov. 1910. General condition good; no cough. Lost some weight since leaving Sanatorium.
Female	30	238	Paper Bag Maker	Paper Bag Maker	18 weeks. Nov. 13th.	Working full time. Home conditions poor.	Nov. 1910. Doing well; some cough still.
Male ...	21	239	Clerk	Clerk	15 weeks. Oct. 9th.	Working full time. Home conditions good.	Nov. 1910. Quite well.
Male ...	21	242	General Labourer	Corporation Labourer	20 weeks. Nov. 26th	Working full time. Home conditions good.	Nov. 1910. Improvement well maintained.

Sanatorium treatment of phthisis—*(continued).*

Three of the 37 patients have died since leaving the Sanatorium. One of these, who was a domestic servant, did not respond to treatment, and left very little better after her stay. Another—a brass filer—did fairly well, but went home to a house where there were a number of other tubercular cases, and where there was a great deal of poverty. This man could not get the necessary food. The third patient, a dressmaker, did not respond to treatment at the Sanatorium in any way, and on her return lived in an underground kitchen, and died on February 2nd, 1911.

Three other cases are undoubtedly failing fast, apparently due to the fact that the conditions to which they returned were those of extreme poverty, except in one case.

This leaves 31 patients, 30 of whom are known to be in good condition, and one of whom has not been seen. The foregoing table indicates in a very ineffective way the present condition of these patients. In the majority of cases they have kept up the treatment to a limited extent, with a result that most of them, on re-examination a year afterwards, were found to be robust-looking people, where formerly they were pale and thin. The table does not indicate this, but it may be said generally that from the condition of the lungs and the general appearance of the patients the Sanatorium has produced extremely good results.

Several general points are emerging as the result of experience at Salterley Grange. One is the necessity for some method of preventing patients returning to extreme poverty, as some of them do at present. This has occurred in the case of a good many patients who were formerly quite efficient workmen, but who by reason of their stay at Salterley Grange have been convinced of the necessity of giving up their unwholesome employment, which they rightly or wrongly regard as the cause of the mischief, and attempting when they come out to get some healthy employment. Particular reference might be made to local industries in regard to which it seems that the trade itself should deal with the matter—that is, brass-casting and polishing of various kinds. Several brass-casters have left the Sanatorium resolved never to go into a brass-casting shop again, but they have had extreme difficulty at the age of 35 or 40 in getting any other employment, and have, as the result, foolishly put up with extreme poverty rather than risk returning to what they regarded as a potent factor in producing their illness, viz., the dust in the workshop.

Sanatorium treatment of phthisis—(*continued*).

It may be said that over 80 per cent. of the patients sent to Salterley Grange are, at the end of one or two years from the date of their discharge, as the case may be, either doing full work or capable of doing a full day's work.

Salterley Grange Sanatorium.

The following is a report by Dr. Traill, Medical Superintendent of Salterley Grange Sanatorium, on the work of 1910:—

SALTERLEY GRANGE SANATORIUM.

GENTLEMEN,—

There were 29 patients (14 males, 15 females) in residence in Salterley Grange on January 1st, 1910. During the year 80 patients (49 males, 31 females) have been admitted, making a total of 109 (63 males, 46 females) under treatment.

	Males.	Females.	Total.
Patients in residence, Jan. 1, 1910 ...	14	15	29
Admitted during year	49	31	80
Total	63	46	109

During the year 73 patients (43 males, 30 females) were discharged, leaving in residence on December 31st, 1910, 36 patients (20 males, 16 females).

	Males.	Females.	Total.
Discharged during the year ...	43	30	73
In residence, Dec. 31st, 1910 ...	20	16	36

Results.—Of the 73 patients discharged, one left of his own accord the day after admission on account of the cold, and one was dismissed for repeated disobedience of instructions. The results obtained in the remaining 71 were as follows: In 52 (31 males, 21 females) the disease was apparently arrested, in 17 (9 males, 8 females) there was improvement, and in two (1 male, 1 female) there was no improvement. Stated in percentages, 73 per cent. were apparently arrested, 24 per cent. improved, and 3 per cent. not improved.

	Males.	Females	Total.	Per cent.
Apparent arrest	31	21	52	73%
Improved	9	8	17	24%
Not improved	1	1	2	3%

By "apparent arrest" is meant the cessation or marked amelioration of all signs of phthisis, *i.e.*, cough, sputum, signs heard on auscultation of chest, fatigue on exertion, breathlessness, pain, etc. There is also marked improvement in the physical health of the patient, and in every case weight was put on.

Salterley Grange Sanatorium—*(continued).*

The Treatment.—Abundance of fresh air day and night, good feeding, rest, and exercise regulated for each individual case, are the four cardinal principles on which the patients are treated.

On admission the patient's weight and height are taken. For the first six days he is rested in bed, the pulse and temperature are noted, and other observations made. If the temperature be satisfactory in bed, and there are no contra indications, the patient is allowed to get up. He goes down to meals and rests between times on his lounge chair. This continues for a week, and then light work or exercise one hour per day, more or less, as the individual case demands. This is gradually increased. At the end of four weeks he is on two hours' work or exercise, forenoon and afternoon. The work is gradually made harder. After fourteen or sixteen weeks he is put on five hours per day. If a patient can continue five hours per day for four or six weeks without rise of temperature or any other abnormal sign, *provided the chest condition be satisfactory,* and the sputum non-existent or free from tubercle bacilli, the disease is considered to be arrested.

In cases where improvement only can be expected, the amount of work or exercise never gets beyond two hours per day, and this is of the lightest. A course of four to six months' treatment is given to satisfy one's self that sanatorium treatment alone will not secure arrest of the disease. In a number of cases there appears to be no improvement for weeks, and then the patient begins rapidly to improve, and given sufficient time will go on to arrest.

If a patient develops symptoms such as headache, temperature, increased cough and sputum, he is rested in bed, and then gradually returned to his previous state of work, and the initial process repeated, but more quickly. Where patients are obviously going to do badly, Dr. Stanley is consulted, and, the prognosis agreed upon, the patient is sent home or retained for further treatment.

Each patient is treated individually—the amount of rest and exercise is arranged to suit each. *The effect of work is noted while the patient is working,* and afterwards by the regular taking of temperature and noting other signs.

The Sanatorium provides a plentiful variety of work. Those on light work have bed-making, room-cleaning, wood-chopping, light garden work, weeding, sweeping walks. Those on heavier work wash out their rooms twice a week, do brass cleaning, bed-making, heavier garden

Salterley Grange Sanatorium:—*(continued).*

work, digging, hoeing, weeding, planting, cutting hedges, mowing, rolling lawns, sawing logs of wood, and carpentry. Still heavier work is pick and shovel work, wheeling barrowfuls of earth, road mending and making, turfing, fencing, tree planting, painting, etc. In this work they are guided and helped by the gardener, carpenter, or painter, who have received instructions as to the fitness of each patient for the work.

The women patients have a good deal of work in keeping their own rooms clean and tidy, in bed-making, sewing, mending, darning, cleaning potatoes, and in summer in light garden work. All the work they do is practically in the open air, and is associated with as little dust as possible.

The patients on work have walking exercises on certain days—men on Tuesday and Saturday afternoons 2-4, and on Sunday 10-12 and 3-4; women on Wednesday and Friday 2-4, and on Sunday 11-12 and 2-4. The walks are arranged for them: their direction and distance.

Sex of Patients.—Men preponderate in the numerical relationship of 4 to 3.

	Males.	Females.
Arrested	31 ...	21
Improved	9 ..	8
Not improved ...	1 ...	1
Total	41 ...	30

Married or Single.—The single predominate in the numerical relationship of 4 to 3.

Arrested.				Improved.				Not improved.			
Males.		Females.		Males.		Females.		Males.		Females.	
Mar.	Sin.	Mar.	Sin	Mar.	Sin.	Mar.	Sin.	Mar.	Sin.	Mar.	Sin.
18	13	6	15	2	7	4	4	—	1	—	1

Married, 30. Single, 41.

Age of Patients.—Two-thirds of the patients discharged were between 20 and 34 years.

	Males.			Females.			
	Arr.	Imp.	N. Imp.	Arr.	Imp.	N. Imp.	Tl.
Under 20 years ...	5	2	—	5	—	—	12
Between 20 and 24	4	3	—	6	2	—	15
.. 25 .. 29	4	2	—	5	2	—	13
.. 30 .. 34	8	—	1	4	2	1	16
.. 35 .. 39	5	2	—	—	1	—	8
.. 40 .. 50	5	—	—	1	1	—	7

Weight Gained.—The greatest weight gained was 36 lbs. in ten months. This has been surpassed in a patient still resident, who gained 60 lbs. in ten months, rising from 9 st. 6 lbs. to 13 st. 10 lbs.

Salterley Grange Sanatorium—*(continued).*

	Males.		Females.		
	Arrested.	Improved.	Arrested.	Improved.	
Greatest gain...	36 lbs.	32½ lbs.	23¾ lbs.	16½ lbs.	
Least gain ...	8½ ,,	4 ,,	1 ,,	5 ,,	
Average gain ...	20 ,,	16 ,,	11·7 ,,	5½ ,,	
Total ...	629 ,,	147 ,,	245·25 ,,	43½ ,,	= 1064¾

A total gain of 1,064¾ lbs. by the arrested and improved. There was a loss of weight in the two cases who showed no improvement.

Amount of work, with number of days in residence, and worked out as so many hours per working day (five days of four to five hours per week):—

Males	Arrested	15,354 hours	4,835 days	3·7 hours per day.
	Improved	3,146 ,,	1,836 ,,	2·4 ,,
	Not ,,	—	40 ,,	— ,,
Females	Arrested	5,596 ,,	3,158 ,,	2·4 ,,
	Improved	958 ,,	1,231 ,,	·8 ,,
	Not ,,	—	124 ,,	— ,,

Length of Stay.—

	Males.			Females.		
	Arr.	Imp.	N. Imp.	Arr.	Imp.	N. Imp.
Average	156 days	204 days	40 days	150 days	158 days	124 days,

The average length of stay was 158 days, or 22½ weeks.
The daily average number resident during whole year = 35·6.
The family history gave a positive history of Phthisis in 30%.

History of Onset.—

Under 1 month	6
From 2 to 11 months ...	30
From 1 to 2 years	24
Over 2 years	11

About half the cases gave indications that they were suffering from phthisis less than a year before admission. In 29 patients the right lung was affected, in three the left, and in 37 both lungs.

A report on the patients after leaving the Sanatorium will be given by Dr. Stanley.

Yours faithfully,

(Signed) A. K. Traill.

Yardley Road Sanatorium.

Yardley Road Sanatorium was opened for the reception of patients on October 10th last, and in order that a regular weekly number might be admitted and discharged the total accommodation was not used for a month. In this way, during the year 1910 the admissions were only 111 in number, of whom 62 were discharged by the end of the year. Patients who show active response to the

Yardley Road Sanatorium—*(continued).*

treatment and are otherwise suitable are sent on to Salterley Grange Sanatorium. Others are dealt with by tuberculin, and after leaving the Sanatorium are asked to come up for tuberculin treatment once or twice a week, as required.

The work is not sufficiently advanced to give definite results, but there is every indication that most valuable work is being done in the prevention of tuberculosis by the simple means that are possible at this Sanatorium. Many patients have received what appears to be permanent benefit, the majority of infective cases have been thoroughly instructed how to prevent the infection spreading, and the selected cases which are receiving tuberculin are growing in numbers, while at the same time there is in these cases a very marked improvement in the lung condition, indicating the desirability of increasing the work at this institution.

The sanatoria have had the effect of stimulating the public to desire notification, with a result that the number of notifications per 1,000 of the population is as high or higher than in towns having compulsory notification. The number of notifications in each year since 1905 is set out in the table below:—

1905	...	...	...	646
1906	...	. .	. .	637
1907	...	...	...	768
1908	...	...	. .	900
1909	...	...	...	1,584
1910	...	...	...	1,843

Since the beginning of 1909 the notification of patients coming under the Poor Law medical service has been compulsory under an order of the Local Government Board, and from May, 1911, the notification of all cases treated at hospitals and dispensaries has also been made compulsory.

Tuberculosis and the Milk Supply.

Tuberculosis and milk supply.

Mr. John Malcolm, F.R.C.V.S., the Veterinary Superintendent, has supplied the following report upon the scheme for eliminating tubercle infection from the milk supply:—

Veterinary Department,
Holliday Street Wharf.

GENTLEMEN,—

Following the procedure of the last few years, the attempt to eliminate tubercle infection from the milk supply has continued along two lines, viz.:—

Tuberculosis and milk supply—(*continued*).

(1) The eradication of tuberculosis from particular dairy herds with a view to securing a recognised reliable tubercle-free milk supply from tubercle-free cows.

(2) The elimination as far as possible of tubercle infection in the general milk supply by the detection and removal of cows yielding infected milk.

With respect to the first, a summary of the work done is as follows:—

At the beginning of 1910 in thirteen herds (A) numbering 550 cows Bang's method for eradicating tuberculosis was being applied. During the year four other herds (B) numbering 151 cows were added to the list. On the other hand, two herds (C) numbering 103 cows were withdrawn from the list. Therefore at the end of 1910 fifteen herds (D) numbering 607 cows were being dealt with.

The reason for withdrawal in one of the two cases mentioned was that the owner let the farm and disposed of the herd. In the other case the Health Authority declined to continue to deal with the herd because the owner failed to comply with their prescribed regulations respecting ventilation and isolation, and because he continued purchasing and introducing into his herd more infected cows than he was disposing of.

Of the fifteen herds on the list at December 31st, 1910, twelve (E) were free from tuberculosis and three (F) were in process of being freed. In one of these three herds Bang's procedure has been in operation between two and three years. In this case, at the first time of testing, the percentage of cows infected was 57·7. When tested last December the percentage was 17·8.

In the other two herds being freed the procedure was only inaugurated during the year, and it is too soon to speak positively of results further than to say that the progress so far has been satisfactory.

With respect to the twelve herds free from tuberculosis, in six (G) of these the procedure has been to buy only tubercle-free cows in full milk, and to fatten and dispose of them as their milking period ceased. In the other six clear herds, as well as in the three herds (H) mentioned as in the process of being cleared, a breeding system is followed. The good milkers are retained in the herd and bred from as long as this can profitably be done; and, as a rule, any cows required to replace those drafted out are purchased subject to passing the tuberculin test.

It is of interest to record that in four of these herds (I) all the cows were found to be free from tuberculosis when first tested on behalf of the Health Authority, and are still free. In these the system of home breeding had been practised almost exclusively.

Tuberculosis and milk supply—(*continued*).

THE ELIMINATION OF TUBERCULOSIS FROM DAIRY HERDS SUPPLYING MILK TO BIRMINGHAM.

PARTICULARS OF HERDS DEALT WITH IN 1910.

Herds dealt with in 1910.	No. of cows in herds January 1, 1910.	No. of cows in herd added during 1910.	No. of cows in herds withdrawn during 1910.	No. of cows in herds at Dec. 31, 1910.	Herds free from Tuberculosis.	Herds being freed from Tuberculosis.	Non-breeding dairy herds.	Breeding dairy herds.	Herd tubercle-free when first tested.
	A	B	C	D	E	F	G	H	I
1 ...	56	—	—	56	1	—	1	—	—
2 ...	85	—	—	90	1	—	1	—	—
3 ...	51	—	—	52	1	—	1	—	—
4 ...	42	—	—	42	1	—	1	—	—
5 ...	40	—	40	—	—	—	—	—	—
6 ...	13	—	—	14	1	—	—	1	1
7 ...	23	—	—	23	1	—	1	—	—
8 ...	14	—	—	14	1	—	1	—	—
9 ...	30	—	—	32	1	—	—	1	—
10 ...	73	—	—	73	—	1	—	1	—
11 ...	32	—	—	32	1	—	—	1	1
12 ...	63	—	63	—	—	—	—	—	—
13 ...	28	—	—	28	1	—	—	1	1
14 ...	—	58	—	58	—	1	—	1	—
15 ...	—	40	—	40	—	1	—	1	—
16 ...	—	14	—	14	1			1	1
17 ...	—	39	—	39	1	—	—	1	—
	550	151	103	607	12	3	6	9	4

From the attached tabulated list it will be seen that 1,111 cows have been tested during the year. Of these 892 passed the test, and 219 failed to pass it.

COWS TESTED WITH TUBERCULIN DURING 1910.

	Tested.	Passed.	Failed.
1	148	127	21
2	250	212	38
3	69	55	14
4	72	46	26
5	9	7	2
6	26	24	2
7	41	32	9
8	17	9	8
9	44	42	2
10	177	149	28
11	32	31	1
12	35	15	20
13	28	26	2
14	58	37	21
15	40	27	13
16	14	14	—
17	51	39	12
	1,111	892	219

Tuberculosis and milk supply—(*continued*).

The procedure has been to test the cows in the several herds twice during the year, and to test all new purchases, admitting to the free herds only those that pass the test.

There is therefore now in Birmingham a recognised supply of tubercle-free milk the product of tubercle-free cows; and the demand for such milk appears to be spreading, particularly in the better class districts. So long as consumers are willing to pay a slight increase in price over that of ordinary milk, a supply will be provided equal to the demand, and it would now appear to rest with the public whether this movement is to progress or not. At any rate, any public institution or private individual desiring such a milk supply can now obtain it by paying the slight increase in cost its production entails.

The chief difficulty dairymen experience is to find an adequate supply of good milking tubercle-free cows. It is an undoubted fact that many of the best milkers fail to pass the test, while many indifferent milkers pass it. No one, of course, contends that infection with tubercle improves a cow's milking faculty. There are two evident reasons for the apparent anomaly: (1) the best milkers are mostly four to six years old, and have therefore been longer exposed to infection in the cowsheds than many younger and poorer milkers; (2) it is quite possible that deep milking may induce increased susceptibility to tubercle infection or lessen the cow's natural powers of resistance. In either case the necessity is accentuated for ordinary farmers keeping their young tubercle-free cows in sheds apart from the old and deeply-infected ones.

The testing of the herds, etc., has been partly carried out by the owners' own veterinary surgeon acting in co-operation with the Corporation Veterinary Staff and partly by the Corporation Staff. The extra cost entailed during the year has been £137 6s. 10d., of which £41 11s. 10d. was for tuberculin and other expenses and £95 15s. for veterinary fees.

With respect to the second line of procedure, viz., the elimination of tubercle infection from the general milk supply, the record is as follows:—

Two hundred and twenty-eight samples of mixed milk were taken from churns at the Railway Stations. Of these 211 were free from tubercle infection, and 17 contained infection, equalling 8·0 per cent. The percentage of infected milk similarly taken in 1908 was 13·7, and in 1909 it was 7·5. As heretofore, the herds from which the infected milk samples were obtained were carefully examined, and as a sequel 13 cows were found affected with tuberculosis of the udder and to yield milk containing tubercle infection. In the other four cases the source of the tubercle infection was not traced. In the cases traced the offending cows were immediately

Tuberculosis and milk supply—(continued).

removed from the dairy stock and the owners advised to have them slaughtered. In nine cases this has been done. In three cases the cows were sold and the owners declined to give any information respecting the buyers. In the remaining case the cow was sold but has not been slaughtered.

It is to be hoped that legislative measures will soon be obtained prohibiting the disposal of cows found to be affected with tuberculosis of the udder. If a small compensation were offered most dairymen would readily have such cows slaughtered. At present, there being no compensation and no legal offence in selling such cows, a number of dairymen see no reason why they should forego any mouctary return they can obtain by the sale of affected cows, and, curiously enough, these men are frequently not the least well-to-do. Pending Government action it becomes a question worth consideration whether the Health Authority should not adopt some provisional arrangement for compensation in these cases. As a rule, a very small compensation would, I believe, secure slaughter of these cows.

Inspection of Birmingham Dairy Herds.

The inspection of cows and cowsheds in the City has been continued as in former years. In all 668 visits of inspection have been made. Generally speaking, the cows have been found clean and healthy, and the cowsheds in a clean and sanitary condition. In no case has any cow in the City been found to be affected with tuberculosis of the udder, but in one case a mixed sample of City milk contained tubercle infection.

Jno. Malcolm,
Veterinary Superintendent.

The following table shows the number of samples of milk examined at the University on behalf of the Health Committee during each of the past four years, together with the percentages of milks found to be tubercular each year:—

	From Churns in City.		From Cows in City Sheds.		From Cows outside City.		Total Samples	No. found Tubercular.
	No. of Samples	No. Tubercular	No. of Samples	No. Tubercular	No. of Samples	No. Tubercular		
1907 ...	141	9	21	3	49	4	211	16 or 8%
1908 ...	54	7	19	2	29	1	102	10 or 10%
1909 ...	111	8	4	0	103	7	218	15 or 7%
1910 ...	228	17	11	0	104	18	343	35 or 10%
	534	41 or 8%	55	5 or 9%	285	30 or 11%	874	76 or 9%

OTHER CAUSES OF DEATH.

Syphilis.—Thirty-six deaths were recorded as due to this disease, of which 28 were in children under one year of age. Syphilis.

Alcoholism.—Nineteen deaths were due to alcoholism, the number closely corresponding to that found in previous years. The figures for alcoholism and the closely-related disease, cirrhosis of the liver, are given in the following table:— Alcoholism.

	Alcoholism.	Cirrhosis of Liver.	Total.
1901 ...	44	94	138
1902 ...	24*	95*	119*
1903 ...	31	100	131
1904 ...	32	71	103
1905 ...	19	80	99
1906 ...	21	71	92
1907 ...	20	74	94
1908 ...	24*	59*	83*
1909 ...	19	60	79
1910 ...	19	57	76

*53 weeks.

When these diseases are taken together it is noted that the year 1910 showed fewer deaths than any preceding year, and that the decline is apparently progressing.

Cancer.—The number of deaths from cancer was 469, as compared with 424 in the previous year and 441 in 1908. The mortality-rate from this disease during the last ten years is set out in the accompanying table, in which it will be noted that the Birmingham death-rate is less than that in England and Wales. The death-rate last year of ·82 per 1,000 was relatively a high one:— Cancer.

	Total deaths from Cancer in Birmingham.	Death-rate per 1,000 in Birmingham.	Death-rate per 1,000 in England and Wales.
1901	395	·76	·84
1902	383*	·72	·84
1903	413	·78	·87
1904	400	·74	·88
1905	437	·81	·88
1906	460	·84	·92
1907	419	·76	·91
1908	441*	·78	·92
1909	424	·75	·95
1910	469	·82	—

*53 weeks.

Cancer—(*continued*).

The following table shows how the cancer deaths were distributed among males and females, and at different age periods:—

DEATHS FROM CANCER.

	Males.	Females.	Total.
Under 1 year	0	0	0
1 and under 5 years	1	0	1
5 „ 10 „	0	0	0
10 „ 15 „	1	1	2
15 „ 20 „	2	0	2
20 „ 25 „	0	3	3
25 „ 35 „	3	10	13
35 „ 45 „	15	28	43
45 „ 55 „	61	52	113
55 „ 65 „	76	66	142
65 „ 75 „	64	56	120
75 „ 85 „	13	16	29
85 and upwards	0	1	1
Total	236	233	469

The subjoined table shows the parts of the town in which the cancer mortality was highest, both in 1910 and in the four previous years:—

DEATH-RATE FROM CANCER.

Wards.	1906.	1907.	1908.	1909.	1910.
Rotton Park	·73	·73	·79	·75	·79
All Saints'	·85	·64	·71	·65	·73
Ladywood	·81	1·01	·85	·78	1·15
St. Paul's	·86	1·11	·78	·90	·43
St. George's	·78	·55	1·03	·59	·73
St. Stephen's	·87	·52	·76	·63	1·06
St. Mary's	1·30	·45	·92	1·13	·64
St. Bartholomew's ...	·85	1·04	1·32	1·09	·76
Market Hall	·74	·67	·23	·80	1·19
St. Thomas'	1·16	·81	·63	1·04	1·11
St. Martin's	·79	·79	·85	·79	·74
Edgb. & Harborne ...	1·01	·87	·91	·69	1·01
Deritend	1·47	1·04	·79	·87	1·61
Bordesley	·70	·78	·89	·73	·76
Duddeston	·74	·74	·72	·69	1·06
Nechells	·89	·71	·70	·56	·78
Balsall Heath	·83	·90	·82	1·24	·92
Saltley	·65	·57	·72	·50	·64

Premature birth

Premature Birth.—The deaths set down to premature birth numbered 331, and were equal to a rate of ·58 per 1,000. The next table shows how these figures compare with those of previous years:—

Premature birth—*(continued)*.

	Deaths.	Death-rate per 1,000. Birmingham.	England and Wales.
1901 ...	349 ...	·67 ...	·57
1902 ...	361* ...	·67 ...	·57
1903 ...	365 ...	·68 ...	·57
1904 ...	377 ...	·70 ...	·58
1905 ...	304 ...	·56 ...	·55
1906 ...	323 ...	·59 ...	·55
1907 ...	319 ...	·58 ...	·52
1908 ...	338* ...	·60 ...	·53
1909 ...	318 ...	·57 ...	·51
1910 ...	331 ...	·58 ...	—

* 53 weeks.

Bronchitis.

Bronchitis.—This disease is always amongst the commonest causes of death in Birmingham and elsewhere. The mortality from it is usually higher in the large towns than in the country as a whole. The figures for Birmingham and England and Wales are given below:—

DEATH-RATE FROM BRONCHITIS.

	Birmingham.	England and Wales.
1901 ...	2·06 ...	1·36
1902 ...	1·88 ...	1·32
1903 ...	1·69 ...	1·11
1904 ...	2·00 ...	1·25
1905 ...	1·62 ...	1·14
1906 ...	1·61 ...	1·03
1907 ...	1·67 ...	1·21
1908 ...	1·63 ...	1·09
1909 ...	1·64 ...	1·14
1910 ...	1·39 ...	—

Pneumonia.

Pneumonia.—Pneumonia also is more a disease of the towns than of the country districts. In the following figures the rate from pneumonia in Birmingham is shown side by side with that of England and Wales:—

DEATH-RATE FROM PNEUMONIA.

	Birmingham.	England and Wales.
1901 ...	1·73 ...	1·15
1902 ...	1·6 ...	1·41
1903 ...	1·45 ...	1·22
1904 ...	1·67 ...	1·28
1905 ...	1·49 ...	1·30
1906 ...	1·40 ...	1·22
1907 ...	1·57 ...	1·34
1908 ...	1·27 ...	1·18
1909 ...	1·36 ...	1·29
1910 ...	1·22 ...	—

Pneumonia (*continued*).

It will be seen that last year the figure for Birmingham was considerably better than usual.

Among young children the greater part of the mortality from pneumonia is due to the form known as broncho-pneumonia, while among adults the lobar form is the more common. The deaths last year were as follows:—

Ages.	Lobar Pneumonia.	Lobular Pneumonia.	Pneumonia undefined.
Under 1 year	12	151	31
1 and under 5 years	10	127	44
5 ,, 10 ,, ...	4	12	9
10 ,, 15 ,, ...	1	3	2
15 ,, 20 ,, ...	3	0	1
20 ,, 25 ,, ...	3	1	6
25 ,, 35 ,, ...	20	1	13
35 ,, 45 ,, ...	22	6	22
45 ,, 55 ,, ...	24	4	26
55 ,, 65 ,, ...	21	8	31
65 ,, 75 ,, ...	13	14	23
75 ,, 85 ,, ...	6	7	15
85 and over	0	0	0

Suffocation.

Accidental Suffocation.—There were 96 deaths from this cause, of which 84 were those of infants who were suffocated while in bed with their parents. From the figures below it will be seen that the mortality caused in this way is very excessive in Birmingham as compared with that of England and Wales.

DEATH-RATE FROM ACCIDENTAL SUFFOCATION.

	Birmingham.	England and Wales.
1900 ...	·19 ...	·07
1901 ...	·18 ...	·06
1902 ...	·14 ...	·06
1903 ...	·19 ...	·06
1904 ...	·18 ...	·06
1905 ...	·15 ...	·05
1906 ...	·17 ...	·05
1907 ...	·15 ...	·05
1908 ...	·16 ...	·05
1909 ...	·12 ...	·04
1910 ...	·17 ...	—

DISINFECTION.

Disinfection.

The following statement shows the number of houses and the articles of clothing and bedding disinfected during the year:—

Disinfection—(*continued*).

	1906	1907	1908	1909	1910
Houses disinfected after Small-pox	0	0	0	0	0
,, ,, ,, Puerperal Fever	26	33	12	19	25
,, ,, ,, Scarlet Fever	1611	2258	2102	2659	2585
,, ,, ,, Diphtheria and Croup ...	691	972	735	730	607
,, ,, ,, Typhoid Fever	172	217	167	102	90
,, ,, ,, Phthisis ...	554	692	724	650	740
Beds and Mattresses disinfected ...	6456	8072	7776	7285	7767
Sheets, Blankets and Counterpanes disinfected	10316	12442	11837	10599	11698
Pillows and Bolsters disinfected ...	6970	8972	8091	8728	9816
Garments disinfected	10693	10310	11251	8381	12528
Carpets disinfected	2335	2858	2398	1911	1985
Other Articles disinfected	10529	10438	9369	6523	7809

CITY HOSPITALS.

City Hospitals.

The following table shows the number of patients* admitted to the City Hospitals since they were first opened by the Corporation :—

	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.
1874	194	...	...	...
1875	420	20	...	...
1876	11	38	...	...
1877	38	43	...	...
1878	20	424	...	...
1879	4	184	...	...
1880	16	170	...	...
1881	17	333	...	...
1882	105	627	...	...
1883	1090	638	...	...
1884	437	360	...	...
1885	81	204	...	...
1886	2	428	...	...
1887	10	438	...	...
1888	18	528	...	...
1889	0	1801	...	...
1890	0	2525	...	...
1891	44	1225	...	...
1892	24	1131	...	...
1893	963	1339	...	...
1894	2050	1539	...	...
1895	98	2595	...	...
1896	14†	2812	...	...
1897	0	1641	...	...
1898	0	1083	...	...
1899	0	1052	...	...
1900	0	1814	...	...
1901	0	2959	...	229
1902	68	4534	...	119
1903	250	2455	...	14
1904	8	1437	...	119
1905	36	1489	321	109
1906	0	1557	425	121
1907	0	2243	650	153
1908	0	2062	510	110
1909	0	2329	494	46
1910	0	2054	416	12

* In a small percentage of the cases the disease proved not to be that for which the patient was admitted.

† Removed to Aston Smallpox Hospital, by arrangement with the District Council.

City Hospitals —(*continued*).

The two following reports have been made by the Medical Superintendents upon the work done at Lodge Road and Little Bromwich Hospitals during the year:—

REPORT ON CITY HOSPITAL, LODGE ROAD.

Report on Lodge Road Hospital.

I beg to submit to you a report on the working of this hospital for the year ending 31st December, 1910.

Owing to the further decrease of typhoid fever in the City, the typhoid pavilion has not been used for the treatment of this disease since September, and throughout the year we have only been called upon to deal with a very few cases.

Statistics.

The total number of patients treated during the year was 701. This includes 140 remaining in hospital from the year 1909.

Of these 551 were discharged cured, 47 died, and 104 remained in hospital at the close of the year. The figures for each disease are shown below:—

Disease.	Remaining Dec. 31, 1909.	Admitted during 1910.	Total under treatment.	Discharged during 1910.	Died 1910	Percentage Mortality.	Remaining 31st Dec., 1910.
Diphtheria	50	420	470	383	39	8·3	49
Scarlet Fever	89	129	218	159	4	1·8	55
Typhoid Fever	1	12	13	9	4	30·8	0

Typhoid Fever.

The mortality, based on the number of admissions, is 33·3 per cent. One death, however, was due to apical pneumonia, and one to acute miliary tuberculosis. If these be deducted from the total deaths, it leaves a mortality rate of 16 per cent. on the cases admitted.

The original diagnosis was not confirmed in three of the cases admitted. Particulars of these are shown below:—

Diagnosis revised to	Number of cases.	Deaths.
Pneumonia and Pericarditis	1	—
Apical Pneumonia ...	1	1
Miliary Tuberculosis ...	1	1

The following shows the complications that occurred, with deaths:—

Complications of Typhoid Fever.	Number of cases.	Deaths.
Perforation	1 ...	1
Pneumonia	1 ...	—
Pericarditis	1 ...	—

The next table shows the admissions and deaths during 1910, divided according to age and sex:—

Ages.	Males		Females.		Total.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
5—10 years ...	1	—	1	—	2	—
15—20 ,, ...	3	2	1	1	4	3
20—25 ,, ...	—	—	1	1	1	1
25—30 ,, ...	—	—	—	—	—	—
30—35 ,, ...	—	—	—	—	—	—
35—40 ,, ...	3	—	1	—	4	—
40—45 ,, ...	—	—	—	—	—	—
45—50 ,, ...	—	—	—	—	—	—
50—55 ,, ...	—	—	1	—	1	—
Total	7	2	5	2	12	4

The average stay of those who recovered was 48 days, and for those who died 10 days.

The "Widal reaction" was performed in all of the cases admitted. A "positive" result was obtained in nine. The three cases in which a revision of diagnosis was made gave "negative" results.

No case contracted the disease in hospital.

Diphtheria.

The mortality, calculated on the number of admissions, is 9·3 per cent., and for the entire number under treatment is 8·3 per cent.

If from these we deduct those patients who died within 24 hours of admission, namely, 10, and seven other deaths occurring in patients admitted as diphtheria, but who were found not to be suffering from this disease, the death-rate for the cases under treatment becomes 4·7 per cent.

Report on Lodge Road Hospital—(*continued*).

DIPHTHERIA ADMISSIONS AND DEATHS DURING 1910.
DIVIDED ACCORDING TO AGE AND SEX.

AGES.	MALES.		FEMALES.		TOTAL.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
Under 1 year ...	1	—	1	—	2	—
1—2 years ...	12	3	7	2	19	5
2—3 ,, ...	11	1	8	3	19	4
3—4 ,, ...	20	3	16	3	36	6
4—5 ,, ...	12	1	15	3	27	4
5—10 ,, ...	66	7	67	6	133	13
10—15 ,, ...	21	2	36	2	57	4
15—20 ,, ...	17	—	25	1	42	1
20—25 ,, ...	8	1	27	—	35	1
25—35 ,, ...	9	—	31	—	40	—
35—45 ,, ...	1	—	8	1	9	1
45—55 ,, ...	1	—	—	—	1	—
Total	179	18	241	21	420	39

Of the 420 patients admitted 46 were suffering from croup, either as a primary infection or by extension downwards from the fauces.

Tracheotomy was performed in 14 cases with one death, equivalent to a mortality of 7·1 per cent.

No cases were intubated during the year.

Four deaths, due to heart failure, occurred amongst those patients suffering from tonsillar and laryngeal diphtheria, in whom the larynx was involved so slightly that operation was not indicated.

The remaining 34 deaths were all due to heart failure.

The following table shows the relation of deaths and recoveries to the duration of illness previous to admission:—

DAYS OF ILLNESS PREVIOUS TO ADMISSION.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Deaths ...	—	2	6	6	9	4	1	2	3	—	—	—	—
Recoveries ...	12	60	80	50	33	27	15	11	4	3	1	—	3
Mortality per %	—	3·2	6·9	10·7	21·4	12·9	6·2	15·3	42·8	—	—	—	—

Ten patients died within 24 hours of admission.

The recoveries, in those admitted late in the disease, were probably due to the fact that the majority had antitoxin treatment at home. All of the diphtheria patients with the exception of 38, or 8·8 per cent., were treated with antitoxic serum. Of the 38 some had serum before admission, others died before serum could be given, while others were either not suffering from the disease or contracted it so mildly as not to require this treatment.

The total quantity of serum given during the year was 2,038,000 units, an average of about 6,000 units per patient who received antitoxin.

In the opinion of the medical staff 20·7 per cent. of the cases admitted were diagnosed erroneously.

The table below shows the errors of diagnosis, with deaths, divided according to age and disease:—

Ages.	Follicular Tonsillitis.	Specific Disease.	Scarlet Fever.	Diphtheria and Scarlet Fever.	Pneumonia.	Septic Throat.	Tonsillar Abscess.	No disease.	Total.	Deaths.
Under 1 year	—	—	—	—	—	—	—	—	—	—
1— 2 years	—	—	4	2	2	—	—	—	8	2
2— 3 ,,	—	—	3	—	1	—	—	—	4	1
3— 4 ,,	1	—	2	1	—	—	—	—	4	1
4— 5 ,,	2	—	1	1	—	—	—	—	4	—
5—10 ,,	4	—	6	13	—	—	1	3	27	1
10—15 ,,	5	—	3	3	—	—	1	1	13	2
15—20 ,,	5	—	—	1	—	—	—	2	8	—
20—25 ,,	3	—	—	1	—	4	1	—	9	—
25—35 ,,	3	1	2	—	2	—	—	—	8	—
35—45 ,,	1	—	—	—	—	1	—	—	2	—
Total ...	24	1	21	22	5	5	3	6	87	7

Six deaths were due to malignant scarlet fever, and one to pneumonia following scarlet fever.

The average duration of stay of the diphtheria patients in hospital, exclusive of those who died, was 51·4 days.

This apparently long stay is accounted for in some measure by the incidence of secondary diseases, with which the patients were admitted, or which took place in hospital.

The numbers of cases in which two diseases were co-existent at the time of admission is shown below:—

Report on Lodge Road Hospital—(*continued*).

Disease.		Co-exising Disease.	Number.
Diphtheria	+	Scarlet Fever	22
..	+	Varicella	6
..		Pneumonia	5
..	+	Whooping Cough ...	2
..	+	Ringworm	2
..	+	Psoriasis	2
..	+	Impetigo	3
..	+	Chronic Dermatitis ...	1
..	+	Measles ...	1
..	+	Abscesses	3
..	+	Otorrhœa	8

The number of cases in which a second disease was contracted in hospital was as follows:—

Disease.	Developed in Hospital.	Number
Diphtheria ...	Scarlet Fever ...	13

Scarlet Fever.

Owing to the prevalence of scarlet fever in the autumn, it was decided to admit patients to this hospital. Five pavilions were accordingly opened for the treatment of scarlet fever patients.

The mortality, calculated on the number of admissions, is 3·1 per cent.: calculated on the number of patients treated it is 1·83 per cent.

If from these are deducted two cases of malignant scarlet fever, which died within 24 hours of admission, the percentage mortalities become 1·5 and ·9 respectively.

The subjoined shows the scarlet fever admissions and deaths during 1910, divided according to age and sex:—

Ages.	Males.		Females.		Total.	
	Admitted.	Died.	Admitted	Died.	Admitted	Died
Under 1 year	—	—	—	—	—	—
1— 2 years	3	—	4	1	7	1
2— 3 ..	4	1	5	—	9	1
3— 4 ..	11	—	5	—	16	—
4— 5 ..	4	—	8	—	12	—
5—10 ..	26	1	17	—	43	1
10—15 ..	7	—	18	—	25	—
15—20 ..	5	—	2	—	7	—
20—25 ..	—	—	4	—	4	—
25—35 ..	2	1	2	—	4	1
35—45 ..	—	—	2	—	2	—
Total ...	62	3	67	1	129	4

The average duration of stay of the scarlet fever patients who recovered was 61·4 days, of those who died 12 days.

The number of cases in which two diseases were co-existent at the time of admission was as follows:—

Disease.	Co-existing Disease.	Number.
Scarlet Fever	+ Varicella	7
,,	+ Diphtheria	2
,,	+ Pneumonia	1
,,	+ Phthisis	1
,,	+ Subcutaneous Emphysema ...	1
,,	+ Fractured Clavicle ...	1
,,	+ Severe Burn	1

The number in which a second disease was contracted in hospital is shown below:—

Disease.	Developed in Hospital.	Number.
Scarlet Fever ...	Diphtheria ...	1
,, ,, ...	Varicella . .	1

The following list shows what other complications were present in the scarlet fever patients admitted during the year:—

Complications.	Number.
Otorrhœa	31
Rhinitis	65
Adenitis	63
Abscess	10
Albuminuria	29
Nephritis	3
Rheumatism	10
Chorea	1
Vulvitis	2
Presenting diphtheroid bacilli	50

It will be seen from the above table that the patients showed a high percentage of complications with which they were either admitted or which developed in hospital. 109 presented complications of some kind, while 72 had discharge from the nose or ears or both.

Of 50 patients returning swabs containing diphtheroid bacilli, the majority had as complications running from the ears or nose.

Unfortunately, all of these patients were not examined bacteriologically on admission, so that no estimate can be given of those harbouring the organism when admitted to hospital. We know, however, that a considerable number of patients ill with scarlet fever are at the same time infected with the organisms of diphtheria.

Report on Lodge Road Hospital—(*continued*).

Although all such patients and those with discharges are removed from the general ward immediately the condition is detected, yet the time they remain in the ward affords opportunities of infecting other patients.

To reduce the possibility of this "cross infection" to a minimum, I would strongly recommend that sterilisers be provided in each of the ward kitchens, whereby all the eating utensils, such as cups, plates, spoons, forks, etc., used in common by the patients in the ward, can be thoroughly cleaned and rendered free from infection before being distributed for the next meal.

Staff.

I have to place on record the loss the hospital service of the City has sustained owing to the much lamented death of the late Dr. E. Chatelier.

For the past fourteen years Dr. Chatelier was connected with the City hospitals, and for upwards of eleven years was medical superintendent of this institution. He was much esteemed, and will long be remembered by those who knew him.

Several of the other members of the staff were ill during the year, but only 12 were warded, 11 with diphtheria and one with scarlet fever. All of them recovered.

The following statement shows the employment, disease, and duration of illness of those off duty:—

Employment.		Disease.	Total days off duty.
Nurses.	Maids.		
7	4	Diphtheria	282
1	—	Scarlet Fever	58
16	11	Tonsillitis	151
1	—	Influenza	12
1	—	Gastric Ulcer	39
1	—	Erysipelas	26
1	—	Otitis Media	20
1	—	Asthma	16
14	5	Minor Maladies	60
Total 43	20		664 days

Works.

No structural alterations have been carried out though several of the wards, and portions of the administrative block have been cleaned and painted.

Report on Lodge Road Hospital—(*continued*).

Expenditure.

The following are the figures for the year:—

	£	s.	d.
Salaries and Wages (Medical Officers, Nursing and Domestic Staff) ...	2,015	19	11
Repairs (including materials and wages) ...	743	14	2
Provisions, etc.	1,814	13	8
Wines and Spirits	10	6	6
Aerated Waters	14	10	0
Ironmongery, etc.	50	12	4
Drapery, Clothing, etc.	214	12	1
Washing Materials	159	16	5
Printing and Incidentals	111	13	0
Drugs and Surgical Appliances	255	4	2
Coal, Gas, and Water	926	16	4
Rates, Rents, and Taxes	387	14	0
Cost per Patient per week	1	13	8

In conclusion, my thanks are due to my colleague, Dr. T. G. Shand, and to the Matron, Miss Cherrington, for their help in preparing the above statistics, and for their cheerful assistance in the management and care of the patients. I am indebted to the Steward, Mr. Thorley, and to the individual members of the staff for their zeal and help in carrying on the work of the hospital.

To your Committee I also beg to tender my thanks for their kindly consideration to the staff and myself.

I am, gentlemen,

Your obedient servant,

HERBERT M. CARGIN,
Medical Superintendent.

REPORT ON LITTLE BROMWICH HOSPITAL.

Report on Little Bromwich hospital

I beg to submit to you a report of this hospital for the year ending December 31st, 1910.

No structural alteration has taken place in the hospital during the year.

Owing to the increase in the number of scarlet fever patients at the latter part of the year, it was decided by you to admit a certain number of patients into the Lodge Road Hospital. Owing to this, and also to the fact that the number of cases of scarlet fever was not so large as at one time was anticipated, there was no excessive strain on the capacity of the hospital except as regards the isolation wards, which at times have been unable to accommodate all the cases which it would have been desirable to isolate.

The total number of patients treated during the year was 2,274, of whom 65 died, giving a total mortality of

Report on Little Bromwich hospital—(*continued*).

2·8 per cent. in the number of cases treated, as against 3·8 per cent. in 1909.

Patients in hospital on January 1st, 1910 ...	338
Patients admitted during 1910	...1,936
Patients discharged during 1910	...1,894
Patients died during 1910	65
Remaining in hospital on December 31st, 1910	315

The number of deaths, 65, gives a total mortality-rate, based on the number of cases admitted, of 3·4 per cent., as against 4·4 per cent. in 1909. Of these 65 deaths, 60 were due to scarlet fever or its complications, and five were of patients who did not have scarlet fever, viz., pneumonia (3), measles (1), dentition and convulsions (1). Nine were cases of malignant scarlet fever, which died within 48 hours of admission.

If these cases of malignant scarlet fever be deducted, together with the five deaths from other diseases noted above, the mortality among scarlet fever patients, based on the number of cases admitted and treated, would be 2·6 per cent., compared with a corresponding calculation of 3·4 per cent. in 1909.

The ages at which the deaths took place is shown as follows:—

Under 1 year.	1-2 years	2-3 years.	3-4 years.	4-5 years.	5-10 years.	10-15 years.	15-20 years.	Over 20 years.
3	4	9	12	9	21	4	1	2
37					28			

Secondary Cases of Scarlet Fever.

During the year there were 28 cases of secondary scarlet fever, *i.e.*, patients admitted suffering from scarlet fever and developing a second attack of the same disease while convalescing from the primary illness. In one case a patient developed a third attack of scarlet fever, first on July 14th, second on August 24th, and third on October 11th.

The secondary cases are usually of a mild type, the patient probably being protected to a great extent by the first attack. In none of these cases of secondary scarlet fever was there a fatal result.

Corrected Diagnoses.

In 119 instances, or 6·1 per cent., of the cases admitted, patients were found to be suffering, not from scarlet fever, but from diseases shown in the following table, which also shows the number of these cases which contracted

scarlet fever after admission to hospital, and the deaths therefrom. Of the seven deaths in this table, two were of patients who developed scarlet fever in hospital, the remaining five were due to the diseases from which the patients were suffering on admission.

Corrected Diagnoses.	No. of Cases	Contracted S.F. in Hospital.	Died.
Chronic discharge from nose and ears	8	2	—
Tonsillitis (acute and follicular) ...	9	2	—
Measles	2	—	1
German Measles	4	1	—
Chickenpox	4	1	—
Diphtheria	1	1	—
Bronchitis or Pneumonia	6	—	3
Infantile Erythema	4	—	—
Dentition	4	—	1
Erysipelas	1	—	—
Post-pharyngeal Abscess	1	—	—
Urticaria	2	—	—
Scabies	3	1	—
Whooping Cough	1	—	—
Nephritis	1	—	—
Eczema	1	—	—
Impetigo	1	1	1
Stomatitis	1	1	—
Total	54	10	6
No definite disease on admission ...	65	13	1
Total	119	23	7

In addition to the foregoing list of corrected diagnoses many patients have been admitted suffering from scarlet fever and other infectious diseases combined, and are shown as follows:—

Scarlet Fever	+ Diphtheria	8
,,	+ Chickenpox	14
,,	+ Whooping Cough	10
,,	+ Measles	2
,,	+ Scabies	12
,,	+ Ringworm	53

Cases known to be convalescent from, or suffering from, other infectious diseases, or coming from houses where such diseases exist, are isolated on admission. If it happens, however, that the existence of other infection is not known until the second disease shows itself after admission, even if the patient is immediately isolated, there is great risk of other patients having been infected in the interval which has elapsed. In this connection it may be mentioned that five cases of measles, three of German measles, and five of chicken pox occurred, in which the disease developed after admission of patient to hospital within the incubation period, showing that

Report on Little Bromwich hospital—(*continued*).

the patient must have been exposed to infection and contracted the disease before admission to hospital, but did not show any symptoms until after admission.

In addition to these the following patients contracted various diseases in hospital:—

Disease.	Cases.	Deaths.
Chickenpox	26	
Diphtheria	6	
Measles	2	
German Measles	4	
Ringworm	11	
Typhoid	2	1

In January two boys in one ward developed symptoms of typhoid fever simultaneously. Both were convalescing from scarlet fever, and had been in hospital over five weeks. They were at once isolated; one made a good recovery and the other died. No further case occurred.

The facts that both patients had been in hospital so long and that the disease occurred in both at the same time pointed to a common source of infection. There had been no case of typhoid in the hospital previously, and had the infection been introduced by a "carrier case" it is probable that more cases would have been subsequently noted. Nothing could, after careful investigation, be discovered that would account for this outbreak. The drains were all in good order, and these patients had partaken of no food that was not served out in common to the other patients.

Unclean Heads.

A careful record has been kept during the year of the patients admitted with unclean heads, *i.e.*, either actually verminous or containing nits, which would have become verminous within a short time. The total number so affected was 709 (or 36 per cent. of the cases admitted), and comprised 235 males and 474 females.

Length of Stay in Hospital.

The average number of days' stay in the hospital has been 62·2. This is somewhat longer than last year (59·3), and has been caused, in fact, by the longer detention of patients with chronic ear and nose discharges, in order to prevent, as far as possible, the occurrence of return cases. No patient with a discharge from ear or nose has been sent home except at the request of the parents, and after consultation with them as to the method of after treatment of these discharges.

Health of Staff.

Report on Little Bromwich hospital—*(continued).*

During the year the total number of days off duty among the staff due to illness was 831.

9 Nurses suffered from scarlet fever.
14 Nurses were off duty for other ailments, viz., tonsillitis, influenza, rheumatism, colds, etc.
4 Maids were ill with scarlet fever.
1 Maid with diphtheria.
10 Maids with other minor ailments.

The number of days off duty owing to the 13 cases of scarlet fever were 622, or an average of 48 days each.

I am glad that all made a good recovery, and that there was no death among the staff.

EXPENDITURE FOR THE YEAR 1910.

	£	s.	d.
Salaries and Wages (Medical Officer, Nursing and Domestic Staff, etc.)	3,058	6	2
Repairs (including material and wages)	1,002	13	3
Provisions, etc.	4,962	7	7
Wines and Spirits	22	12	0
Aerated Waters	11	11	0
Ironmongery, etc.	108	5	3
Drapery, Clothing, etc.	386	10	0
Washing Materials	221	11	11
Printing and Incidentals	149	5	7
Drugs and Surgical Appliances	150	12	2
Coal, Gas, and Water	2,295	16	8
Rents, Rates, and Taxes	330	7	3
Cost per Patient per week	0	14	6

I am, gentlemen,

Your obedient servant,

T. W. Beazeley, M.B.

DISEASES OF ANIMALS COMMUNICABLE TO MAN.

The following report has been made by Mr. Malcolm, the Veterinary Superintendent:—

Veterinary Department,
Holliday Street Wharf.

Gentlemen,—

As requested, I have pleasure in sending you a short report on the occurrence of contagious diseases in animals for the year 1910.

Glanders and Farcy.—There were three outbreaks, numbering ten cases, of glanders and farcy in Birmingham in 1910, as compared with three cases in 1909, and 100 cases in 1908. In two of the outbreaks, numbering seven of the cases, the disease occurred in old

Glanders and Farcy.

Glanders and Farcy—(*continued*).

railway horses that had been recently brought into the town from outside and sold at one of the horse repositories to hauliers. The third outbreak, numbering three cases, occurred in a parcels delivery stud. One of the three horses affected in this outbreak was a recent purchase, but there was no direct evidence to show whether this horse or one of the other two introduced the disease to the stud. However the disease was introduced there is no previous record of the occurrence of glanders in this stud.

In a recent return of the cases in the country for the last three years the records are as follows:—

1908	there were	789	outbreaks and	2,433	animals attacked.
1909	,,	533	,,	1,753	,,
1910	,,	355	,,	1,022	,,

This clearly shows that glanders is now being rapidly eradicated, but so long as the disease continues to exist, Birmingham, which is a centre where many cast horses are sold, is liable to its re-introduction. It is hoped, however, that the public attention that was drawn to the introduction of glanders by old railway horses here last year will tend to minimise the risk of a recurrence of that kind in future. It is now quite clear that so far as Birmingham horses are concerned the disease has been stamped out.

Anthrax.

Anthrax.—Again a considerable number of cases suspected of anthrax were submitted for examination, but only four proved to be affected cases. Of these, three were cows and one an ox. In all cases care was taken to prevent the infection of others, and no case or suspected case in man or animals followed.

The possibility of the milk of cows affected with anthrax being dangerous has been frequently discussed. While there seems to be no authentic proof of milk, free from blood, taken prior to death, containing anthrax infection, it may be of interest to record that the milk drawn soon after death from one of the affected cows was found to contain anthrax infection.

Although, relatively speaking, Birmingham continues remarkably free from anthrax, the disease in the country generally continues to increase. This is evident from the returns for the last three years:—

In 1908	there were	1,105	outbreaks, and	1,429	animals attacked.
1909	,,	1,317	,,	1,698	,,
1910	,,	1,496	,,	1,776	,,

There seem good reasons for regarding the majority of cases of anthrax in this country as of foreign origin—

the infection being imported in food, manure, or various animal products, such as hair, wool, skins, etc.—and only a relatively small minority of the cases are of home origin, or due to infection from preceding cases in this country. Anthrax—(continued).

As this view is also the one held by the leading Government experts, one might reasonably infer that the Board of Agriculture regulations would give some evidence of it, but this is not so. On the contrary, while very stringent regulations are prescribed for the prevention of anthrax of home origin, no powers of any kind have yet been put in force to prevent anthrax of foreign origin.

It is to be hoped that the statistics now being collected under the 1910 Order may not only afford a reasonably accurate record of the occurrence of anthrax, but may also incite the Government, if further instigation is needed, to introduce some effective measures for the prevention of these introduced cases.

Rabies.—Again it is a pleasure to record that the country still continues absolutely free from this disease. As in former years, a number of dogs that had bitten people were submitted for examination. None of these showed any symptoms suspicious of rabies, though several seemed savage. Rabies.

Swine Fever.—This porcine scourge continues almost as prevalent as ever. During the year 86 dead pigs were specially examined for swine fever. Of these 15 cases were reported to the Board of Agriculture, and 11 of them were confirmed as cases of swine fever. The present preventive regulations seem quite inadequate for the suppression of this disease, or even for any material diminution in its prevalence. Indeed, there are good grounds for the assumption that unless more effective methods are put in operation its eradication need not be thought of; for although the preventative measures employed locally seem again and again to have suppressed the disease, its elimination has been of limited extent and of temporary duration. These recessions sooner or later have invariably been followed, not only by the reappearance, but frequently by the widespread prevalence of the disease. The markets and auction sales in the districts surrounding the City have far more to do with the recurrence of the disease than the City Markets. This is owing to store pigs being largely dealt in in the surrounding districts, whereas in the City Markets only pigs for slaughter are admitted, so that, although the disease is frequently introduced here, it is immediately stamped out, except in the case of pig feeders' pigs, which are bought outside, and which may remain affected with Swine Fever.

Swine Fever (continued).

the disease some time before it is recognised or attention drawn to it.

There is much respecting the spread of swine fever that has yet to be learned, but there is little doubt that in the vast majority, if not in nearly all cases, the disease is spread by the living pig. Moreover, it is now generally being recognised that many pigs are only very slightly affected, and that many of those that recover or appear to have recovered may continue to disseminate infection for an indefinite period. Assuming the accuracy of this, it is clear that nothing short of slaughter of all those pigs that have been in contact with diseased pigs can be relied upon to secure its extermination.

In Birmingham all pigs that have died from any cause are specially examined for evidence of swine fever, but only those that present some symptoms or lesions really suspicious of swine fever are reported to the Board of Agriculture. This method saves much expense and time, and might well be adopted in other centres.

Swine Erysipelas and contagious pneumonia.

Swine Erysipelas and Contagious Pneumonia.—A number of these cases have again been met with, and not infrequently the latter appears to complicate swine fever.

Parasitic mange

Parasitic Mange in Horses.—Parasitic mange has again been prevalent in the City, there being 134 cases certified in 1910, as compared with 75 in 1909. Nevertheless, much good work has been done, and the horses at work appear to have been freer from this disease than at any period in my recollection.

(Signed) John Malcolm, F.R.C.V.S.,
Veterinary Superintendent.

HOUSING OF THE WORKING CLASSES.

Housing of the working classes.

Birmingham has during the past eight years adopted a vigorous policy in the direction of bettering the conditions under which many of the slum dwellers live. The table following this paragraph indicates what has been done under the Housing Acts during each year since 1903. In Birmingham, as in other towns, great changes are taking place in the ideals of the poorest inhabitants as to what is proper house accommodation. There is a well-marked move from the back-to-back house in the confined court-yard to one which is self-contained and in a cleaner atmosphere.

The development of cheap trams and trains has made this very laudable improvement possible.

The owners of small back-to-back houses in squalid districts have suffered severely, not only in the general depreciation in the value of these houses, but also in the inability to keep them occupied, even at reduced rentals.

The return received by many owners on their invested capital in this class of property has been so small that they have to an increasing degree avoided spending money in repairs, with a result that still there is a good deal of the property in a very dilapidated condition.

Great difficulty is now experienced in getting any mortgage on court-yard houses in the poorest districts. The whole tendency to forsake these houses because they do not offer reasonable and decent facilities for human beings is an extremely wholesome one, and one which ought to be encouraged as far as possible, provided that security for money invested in wholesome house property is not allowed to be interfered with.

The table below gives certain particulars of the work done year by year during the last eight years:—

Date.	Represented.		Rendered Habitable.		Demolished.		Closing Orders.		Demolition Notices.	
	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.	Houses.	Properties.
1903 ...	304	85	155	32	34	19	65	19	51	15
1904 ...	1119	143	242	37	127	33	233	31	36	6
1905 ...	793	98	330	38	230	43	327	41	61	7
1906 ...	596	87	370	49	117	26	199	25	143	13
1907 ...	806	120	262	41	422	64	679	102	157	24
1908 ...	650	79	494	69	257	43	184	24	164	30
1909 ...	521	70	381	54	216	45	220	34	54	9
1910 ...	609	72	277	46	291	59	173	27	41	10
Total ...	5398	745	2511	366	1694	332	2080	303	707	114

The houses represented in 1910 under the Housing and Town Planning Act, 1909, contain 219, which were represented previously under the Housing of the Working Classes Act, 1890, this procedure being necessary, as no machinery was provided in the former Act to enable representations made under the latter to stand good for further proceedings under the new Act.

The Housing and Town Planning Act, which came fully into operation in 1910, considerably delayed and increased the work of the year. The new procedure is very different from that under the Act of 1890, and it was

only towards the latter part of the year that the administrative procedure was in good working order.

REPRESENTATIONS, 1910

Houses unfit for habitation.

PROPERTY.	No. of Houses.
Bishopsgate Street, rear of 80	6
Bishopsgate Street, rear of 82A	8
Bishopsgate Street, rear of 29	6
Bishopsgate Street, rear of 26	6
Upper Gough Street, rear of 48	4
Hospital Street, 147, 149, 151, 153, and 1 in 23 Court	5
Cheapside, 65 and 66 and 11 Court	7
Cheapside, 67 to 72	6
Cheapside, 12 Court, Nos. 1, 2, 3, and 4	4
Cheapside, 13 Court, Nos. 1, 2, and 3	3
Cheapside, 188, 189, 190, and 34 Court	10
Love Lane, 3, 4, and 5, and 2 Court	6
Oxygen Street, 1 to 10, and 1 Court	14
Lombard Street, 26, 28, and 14 Court	4
Bradford Street, rear of 331	6
Heathmill Lane, 99, 101, and two houses at rear	4
Sherborne Street, rear of 19	1
Adderley Street, 30, 31, and rear	6
Talfourd Street, 59 to 67, and rear	29
Bishopsgate Street, 5 Court	6
Bell Barn Road, rear of 264	13
Ruston Street, 9, rear of 97	1
Vauxhall Road, 61 to 77, and St. James' Place, 40 to 47, and 5 and 6 Courts	23
Cecil Street, 45 to 54, and Hanley Street, 23 to 30	18
Hospital Street, 63	1
Pritchett Street, 12 to 15 and 3 Court	12
Newtown Row, 34 Court	6
Brearley Street, 57 and 59 and 21 Court	8
Pritchett Street, house rear of 119	1
Great Hampton Street, 14 and 15 Courts	26
Great Hampton Street, rear of 105A	6
Essington Street, 76 to 84, and Sheepcote Street, 41	10
Sheepcote Street, 3 and 4, and rear	15
Garbett Street, 32 and 33, and rear	10
Talbot Street, 30 to 34	5
Hurst Street, 1 Court	16
Garrison Lane, 245 to 255, and rear	13
Tennant Street, 31 to 37, and 11 Court Bishopsgate Street	18
Moseley Road, 1 Court	4
Brearley Street, 27 and 29	2
Bloomsbury Street, unnumbered house rear of 303	1
Inge Street, 37, 38, and 39, and 11 Court	11
Cecil Street, 84, 85, and 86, unnumbered house back of 85, and 2 Court	10
Cecil Street, 91 to 95, and 1 Court	11
Nelson Street, 85 and 87, and rear	12
Norton Street, 42 to 46, and 1, 2, and 3 and unnumbered house at back, and an unnumbered house in Wharf Street, adjoining 11 Norton Street	10
Brearley Street, 9 and 11, and rear	6
Brearley Street, 13 and 15, and rear	6

Property.	No. of Houses.	
Brearley Street, 71 and 73, and rear	6	Houses unfit for habitation—(*continued*).
Tower Street, 41, and rear	7	
New John Street, 137 and 138, and rear ...	11	
Heath Street, Prince of Wales Terrace, 1 to 12	12	
Barn Street, 3 and 4, and rear	14	
Tower Street, 116 to 119, and two houses at rear	6	
Great Brook Street, 6 Court, 1 to 12	12	
Sand Pits, 126 to 129, and rear	16	
Sheepcote Street, 34 and 35, and rear	6	
Skinner Lane, 50 and 51, and six houses at rear	8	
Ashley Street, rear of 85	5	
Sandy Lane, house rear of 8	1	
William Henry Street, 20 to 29	10	
Tennant Street, 2 and 3, rear of 29 and 30 ...	2	
St. James' Place, 6 to 11, and 1 to 6 immediately at rear	12	
Lawford Street, 20 and 21, and 1 and 2 at rear	4	
Lawford Street, 13 to 15, and rear	8	
Fox Street, 27	1	
Galton Street, 1 to 22, and Cathcart Street, 35 to 37	25	
Lancaster Street, 28 Court	6	
Tower Street, 120 and 121, and 32 Court ...	9	
Brearley Street, 41 and 43, and 17 Court ...	8	
Inkerman Street, 134	1	
Ormond Street, 15, and 1 and 2 in 4 Court ...	3	
Total	609	

Of the above number 219 have been previously represented under the Housing of the Working Classes Act, 1890.

RENDERED HABITABLE, 1910

Property.	No. of Houses.	
Tower Street, 1, 2, and 7 in 27 Court	3	Houses rendered habilable.
Cardigan Street, 1, 11, 12, 13, and 14 in 14 Court	5	
Benson Road, 107, 109, and 1 to 14 at rear ...	16	
Ward Street, 1 in 7 Court	1	
Grosvenor Street West, 26 to 36, and twelve houses at rear	16	
Inge Street, 32, 33, and 1 and 2 in 9 Court ...	4	
Cliveland Street, 39 to 42, and four houses at rear	8	
Princip Street, 57, 60, and fourteen houses in 5 Court	16	
Steward Street, 10, and two houses at rear	3	
Spring Hill Passage, 26, and two houses at rear	3	
Alma Crescent, 1 to 8	8	
Duddeston Mill Road, 1 and 2 in 6 Court ...	2	
Blucher Street, 5 in 3 Court	1	
Blucher Street, 3 and 4 in 2 Court	2	
Blucher Street, 1 and 2 in 2 Court	2	
New Summer Street, 1 to 6, and two unnumbered houses in 24 Court	8	
Ward Street, unnumbered house in 6 Court	1	
Scott Street, 7, and Spooner Street, 29 ...	2	

Houses rendered habitable—*(continued)*.

Property.	No. of Houses.
Northumberland Street, 4, 5, 6, and 7, and 1 Court	8
Sloane Street, 14, 18, 19, 20, and rear	8
Moseley Road, 12 and 14	2
Upper Gough Street, 1, 2, 3, 5, and 6 in 1 Court	5
Barford Street, 10 to 30, and 1, 2, and 3 at rear	11
Brearley Street, 80, and 20 Court	5
Bishopsgate Street, 94 to 100, and rear, and William Street, 15 to 17, and 3 at rear	17
Darwin Street, 49 to 51, and 7 Court	6
High Street, Bordesley, 127, and rear	3
Highgate Street, 12 Court	4
Ormond Street, 39 and 40, and 10 Court	6
Brearley Street, 9 Court	4
Sloane Street, 47 to 50	4
Garrison Lane, 458 to 466, and rear	22
Sherborne Street, 12, and 5 Court	8
Don Street, 5 to 11, and rear	8
Sheepcote Lane, rear of 25	5
Hatchett Street, 16, and rear	2
Spring Hill, 38	1
Ryder Street, 37	1
Bissell Street, 8 Court	4
Graham Street, 3	1
Alcester Street, 175 and 176, and 18 Court	4
Moseley Road, 24 to 36, and 4 and 5 Courts	12
Charles Henry Street, 1 to 15, and Lower Darwin Street, 19 in 5 Court	16
Brearley Street, 2 Court	5
Sherborne Street, 14	1
Pritchett Street, 116, 117, and 118	3
Total	277

DEMOLISHED, 1910

Houses demolished.

Property.	No. of Houses.
Richard Street, 15, 16, and 17, and 3 Court	5
Steward Street, 5 to 9, and unnumbered house rear of 6	6
High Street, Deritend, five unnumbered and Nos. 3 and 4 in 34 Court	7
Farm Street, 316 and 317, and 1 to 14 at rear	16
Steward Street, 13, and 1 and 2 at rear	3
Grosvenor Street West, 35, and 5, 6, 11, and 12 at rear	5
Cardigan Street, 3 to 10 inclusive in 14 Court	8
Tower Street, 3 in 27 Court	1
Inge Street, 3, 4, and 5 in 9 Court	3
Steward Street, 1, 2, and 3, rear of 43	3
Witton Street, 60 to 67, and 1 to 7 in 8 Court	15
Cheapside, rear of 126	2
Cleveland Street, 36, 37, and 38, and house at rear	4
Talbot Street, 95 and 96, and fourteen houses at rear	16
Howard Street, rear of 50	3
Lawford Street, 24, and 4 at rear	2
Blucher Street, 1 to 4 in 3 Court	4
Don Street, 10, 12, and 20, and unnumbered house adjoining No. 10	4

Property.	No. of Houses.	
Smithfield Passage, 37 to 40	4	Houses demolished—(*continued*),
Barford Street, 1 and 2, rear of 93	4	
Lawford Street, 13, 14, 15, and 1 to 5 at rear	8	
Watery Lane, 283	1	
Great Hampton Row, 9 to 12 in 1 Court	4	
Bissell Street, 1 to 6, rear of 103	6	
Sherborne Street, 1 to 5 in 6 Court	5	
Darwin Street, 48, and house at back	2	
Sloane Street, rear of 50	1	
Sloane Street, 15, 16, 17, and 4 at rear, and 21 and 1 at rear	6	
Barford Street, 66 to 80	8	
Park Street, 95 to 99 and 23 Court	15	
Duddeston Mill Road, 3 in 6 Court	1	
Ward Street, 23	1	
Sherborne Street, 13, and 1 at rear	2	
Spring Hill, 34, 36, and rear	8	
Lawford Street, 20, 21, and rear	4	
Lawford Street, 1 to 6 in 5 Court	6	
Bishopsgate Street, 2 in 22 Court	1	
Bissell Street, 4 in 8 Court	1	
Aston Road, 17	1	
Alcester Street, 100 to 109	10	
Barford Street, 2 and 3 in 4 Court	2	
Cheapside, 25 to 29, and Rea Street, 43 to 46, and unnumbered house at rear	10	
Brearley Street, 82	1	
Upper Gough Street, 4 in 1 Court	1	
Darwin Street, 196	1	
Camden Grove, 7 and 8 Courts	15	
High Street, Deritend, in 33 Court	4	
Heathmill Lane, 99, 101, and rear	4	
Allison Street, 7, 8, 9, and rear	7	
Princip Street, 2	1	
Tower Street, 120, 121, and 32 Court	9	
Constitution Hill, 90 to 104, and rear	12	
Spring Hill, rear 24 and 26	2	
Hampton Street, in 22 Court	3	
Newtown Row, 230, 232, and 234	3	
Lancaster Street, 1 and 2 in 20 Court	2	
Coleman Street, 22, 23, 24, and rear	6	
Garrison Lane, 12 and 19, rear 458 to 466	2	
Moseley Street, 1 and 6 in 25 Court	2	
Total	291	

CLOSING ORDERS OBTAINED, 1910

Property.	No. of Houses.	
Tower Street, 120, 121, and 32 Court	9	Closing orders obtained.
Lawford Street, 5 Court	6	
Moseley Street, 145 to 149, and 18 and 19 Courts	18	
Bishopsgate Street, rear of 26	6	
Bishopsgate Street, rear of 29	6	
Bishopsgate Street, rear of 80	6	
Bishopsgate Street, rear of 82A	8	
Lombard Street, 26, 28, and 14 Court	4	
Cheapside, 188, 189, 190, and 34 Court	10	
Love Lane, 3, 4, 5, and 2 Court	6	
Oxygen Street, 1 to 6, and 1 Court	10	

Closing orders obtained—(*continued*).

Property.	No. of Houses.
Hospital Street, 147 to 153, and 1 in 23 Court	5
Adderley Street, rear of 30 and 31	4
Ruston Street, 9, rear of 97	1
Bradford Street, rear of 331	6
Hospital Street, 63	1
Oxygen Street, 7 to 10	4
Upper Gough Street, rear of 48	4
Cheapside, 13 Court	3
Tennant Street, 108, 109, and rear	4
Cecil Street, 31 to 34, and 13 Court	10
Barford Street, 51	1
Barford Street, 139 and 141	2
Garrison Lane, 245 to 255, and rear	13
Great Hampton Street, rear of 105A	6
Lower Tower Street, 28, and 10 Court	14
Lancaster Street, 28 Court	6
Total	173

DEMOLITION ORDERS SERVED, 1910

Demolition orders served.

Property.	No. of Houses.
Alcester Street, 100 to 109, and Darwin Street, 196	11
Coleman St., 38, unnumbered houses rear of	4
St. Martin's Street, 4 Court	5
Summer Lane, 291, unnumbered houses rear of	3
Hospital Street, 247, 249, and rear	4
Cheapside, 98	1
Windsor Street, 169, and 3 Court	2
Lancaster Street, 19 Court	6
High Street, Deritend, 1 to 4 in 33 Court	4
Worcester St., unnumbered house in 2 Court	1
Total	41

COMMON LODGING HOUSES.

Common lodging houses.

Two additional common lodging houses were registered during 1910, having accommodation for 118 persons. Two others were enlarged, while one, having accommodation for 36 persons, was closed. At the end of the year there were 42 common lodging houses on the register, with accommodation for 2,614 lodgers. Of the total lodging houses registered three were exclusively for women, with accommodation for 96 inmates.

On the whole the lodging houses were maintained in a fair condition, both as regards cleanliness and general repair. A number of them are old buildings, and in certain cases the registered keepers or their deputies are men who do not appreciate any high standard of cleanliness. It is a custom, for instance, to wash the bedclothes once a week, but in some cases the washing is of a very perfunctory character, so that the bedclothing soon gets to look dirty.

The following table shows the work done by the Inspector during the year:— Common lodging houses— *(continued)*.

	1908.	1909.	1910
Visits paid by day	4,083	4,009	3,868
Visits paid by night	510	456	454
Windows not thrown open	6	18	16
Floors requiring cleansing	8	23	38
Bed-clothes requiring cleansing	209	69	67
Bed-clothes to be provided	443	156	244
Means of ventilation provided	137	67	76
Repairs to walls, floors, roofs and windows	235	75	84
Wash-basins provided	34	0	12
Sinks provided or repaired	12	4	5
Water-closets provided	27	2	8
Water-closets repaired	59	37	53
Ash tubs provided	14	7	5
Drains repaired	24	8	10
Yards paved	0	0	4
Fire Buckets provided	59	12	34
Fire Escapes provided	5	1	7

HOUSES SUB-LET IN LODGINGS.

Houses let in lodgings.

During the year the Health Committee applied to the Local Government Board for some amendments to the bye-laws relating to houses sub-let in lodgings, and these have now been approved. The chief alteration in the new bye-laws relates to the placing of the responsibility for structural alterations upon the person who owns the house. Formerly the keeper of the house was made responsible, and as in most instances he was not a man of means, extremely ineffective repairs were carried out, with the result that the houses quickly got into very bad condition. It is a frequent occurrence to find in Birmingham that houses which are getting beyond the stage of repair at which they can be let to ordinary tenants are sub-let in lodgings, and soon they become dilapidated to such an extent that they have to be dealt with under the Housing of the Working Classes Acts.

There were on December 31st 577 houses on the register, as compared with 539 in the previous year, and 3,218 visits were paid during the day-time to these houses. Under our present bye-laws no visits are paid at night.

Many of the houses sub-let in lodgings are very objectionable, both from a sanitary point of view and from the point of view of ordinary decency. They are occupied by probably the worst class of tenant in the City, all of whom are irresponsible, and many of very dirty habits. The letting by the owner to the keeper of houses sub-let in lodgings ensures that the rent is paid regularly. There is nothing more unsatisfactory in the work of the Department than the supervision of this class of property.

CANAL BOATS.

Canal Boats.

The following is a copy of the report sent to the Local Government Board on the work done under the Canal Boats Acts:—

Health Department,
The Council House,
7th January, 1911.

Gentlemen,—In compliance with Section 3 of the Canal Boats Act, 1884, I present to you the Annual Report of the work accomplished under the Canal Boats Acts, 1877 and 1884, and the Regulations of the Local Government Board made thereunder for the year ending 31st December, 1910.

Inspector William G. E. Childs has continued as Inspector under the above Acts. He combines in his work certain duties connected with the attendance at school of canal-boat children: and in addition to the work under the above Acts he also acts as Inspector of Houses let in lodgings in Birmingham. He is paid at the rate of £104 per annum, with uniform and cycle allowance, and his office is at the Council House.

1,044 boats, registered to carry 3,399½ adults, were inspected during the year. The distribution of these inspections among the four quarters of the year is shown as follows:—

1st quarter	...	...	...	...	248	inspections.
2nd ,,	...	...	...	...	289	,,
3rd ,,	...	...	...	...	232	,,
4th ,,	...	...	...	...	275	,,

The following table gives the corresponding numbers since 1905:—

Year.	No. of Boats inspected.	No. of Adults Boats are registered to carry.
1905	925	... 2979
1906	1059	... 3507½
1907	1047	... 3348
1908	1080	... 3554½
1909	738	... 2416
1910	1044	... 3399½

The actual numbers carried in the boats inspected during 1910 were:—1,519 men, 623 women, and 777 children, making a total of 2,919 persons—equivalent to 2,530½ adults.

Of the 1,044 boats inspected, 956, or 91·6 per cent., were found to be in compliance with the Acts and Regula-

tions. But in regard to 88 boats contraventions existed, and notices were served on the owners. On 45 of these boats one contravention existed in each, on 22 boats two contraventions in each, on 19 boats three contraventions in each, and on two boats four contraventions in each. The total number of infringements found was, therefore, 154, and these are classified in the following table, which indicates and classifies also the complaints remedied:—

	Brought forward from 1909 to be dealt with.	No. found during 1910.	Notices complied with during 1910.	Carried forward to be dealt with in 1911.
Registration...	1	2	3	—
Notification of change of master	—	—	—	—
Certificates	—	11	10	1
Marking	1	29	26	4
Overcrowding	—	9	9	—
Separation of the sexes	—	2	2	—
Cleanliness	—	1	1	—
Ventilation	—	1	1	—
Painting	7	42	43	6
Repairing	3	35	34	4
Leaky Cabins	—	18	16	2
Provision of Water Cask	2	4	6	—
Removal of Bilge Water	—	—	—	—
Notification of Infectious Disease ...	—	—	—	—
Admittance of Inspector	—	—	—	—
	14	154	151	17

In no case during the year was it considered necessary to have recourse to legal proceedings.

The custom of sending letters to owners, drawing attention to the requirements of the notices unfulfilled, has been continued with satisfactory results. As in previous years, compliance was readily made in most cases.

No case of infectious disease occurred during the year in any canal boat in the City.

The number of boats on the register on 31st December, 1910, was 402, compared with 397 at the end of 1909. The corresponding figures at the end of 1910, 1909, 1908, 1907, and 1906 respectively were 402, 397, 396, 391, and 394.

No exact figure can be given for the number of boats in use or available. On the basis of the figures arrived at last year from the list supplied on October 8th, 1909,

Canal boats—*continued.*

by His Majesty's Inspector of Canal Boats, showing the number of boats registered in Birmingham which had been reported from all parts of the country as inspected from 1st January, 1908, to that date, the number of boats registered in Birmingham which are now in use or available is about 269. As was explained in last year's report, this figure cannot be taken as quite correct.

There have been 14 boats registered in Birmingham in 1910, and nine registrations cancelled, making a net increase of five boats. Of these, one registration (and one cancellation corresponding) was in reference to structural alterations in a boat previously registered.

Your obedient servant,

T. Shadick Higgins,
Assistant Medical Officer of Health.

MILKSHOPS.

Milkshops.

In addition to the work of prevention of tuberculosis among the cattle and the inspection of cows and cowsheds visits are paid to dairies and milkshops in the City and to railway stations to see that cleanliness is observed in the handling of milk. One inspector devotes the whole of his time to this work, and a comparative statement of some of the items will be found in the table below:—

	1908	1909	1910
Dairies on the register	12	12	12
Milkshops on the register	2582	2681	2812
Purveyors on the register	506	516	558
Dairies registered during the year ...	0	0	0
Milkshops registered	612	678	654
Purveyors registered	88	100	90
Dairy certificates cancelled	1	0	0
Milkshops ,, ,, ...	491	579	523
Purveyors ,, ,, ...	7	90	48
Visits to dairies	32	39	44
Visits to milk shops and milk stores ...	3443	3479	4092
Dirty vessels found at milk shops and milk stores	22	9	6
Shops, cellars, and pantries whitewashed	77	87	91
Lamp oil, fish, tripe and vinegar businesses prohibited	5	1	1
Dirty churns found at railway stations ...	1	2	0
Cases of infectious disease reported at milkshops	31	39	45

INSPECTION OF MEAT, FISH, FRUIT, &c.

Inspection of meat, fish, etc.

The inspection of meat, fish, fruit, and other foods under the Public Health Acts is referred by the City

Council to the Markets and Fairs Committee, and is under the supervision of the Superintendent of Markets, who has five special inspectors detailed for this work. The statistical information given in the following paragraphs has been supplied by the Superintendent of Markets. Inspection of meat, fish, etc.—(*continued*).

No information is available as to the total number of animals killed in the City. In the public abattoir 30,385 beasts, 28,387 calves, 188,808 sheep, and 19,389 pigs were slaughtered.

There were in use on December 31st 76 slaughterhouses where beasts and other animals were killed, and 41 slaughterhouses where pigs only were killed, so that there were in addition to the public abattoir 117 premises to be visited where slaughtering was carried on. The inspectors have also to visit shops, warehouses, and depôts of various kinds. Slaughterhouses

During the year 11,689 visits were paid to the slaughterhouses, as compared with 11,484 in the previous year. The number of seizures of unsound meat or fish during the year was 13, as compared with 20 in 1909, 31 in 1908, 27 in 1907, and 123 in 1906. Two prosecutions were instituted during the year. Bad meat and fish.

The following tabular statement gives the work done in this department:—

	1908	1909	1910
BAD MEAT.			
Voluntarily surrendered ...	3659 lots.	3937 lots.	4177 lots.
Seized by Inspectors	19 lots.	14 lots	5 lots.
Weight destroyed	303 tons.	352 tons.	307 tons.
Persons prosecuted	5	3	2
Penalties inflicted	£14	£40	£15
BAD FISH. POULTRY, ETC.			
Voluntarily surrendered ...	1519 lots.	1460 lots.	1422 lots.
Seized	12 lots.	6 lots.	8 lots.
Weight destroyed	141 tons.	103 tons.	118 tons.
Persons prosecuted	0	1	2
Penalties inflicted	£0	£0 10s. 0d.	£1 10s. 0 l.
BAD FRUIT.			
Weight destroyed	24 tons.	15 tons.	9 tons.

A great stumbling block to getting the food supply of Birmingham into a really good condition has been the competition which has existed between the slaughterhouses and shops in the City and those in the densely populated areas immediately outside the City boundary.

Bad meat and fish—*(continued).*

Any action on the part of Birmingham was quite properly represented as being one which would give rise to unfair competition from the districts immediately adjoining Birmingham. In only one of these districts was there a properly qualified meat inspector. The experience in Birmingham in the past has been that when action has been taken against a butcher dealing in meat of bad quality he has gone immediately outside the City boundary and carried on his business without much interference. In one or two instances this has been so marked as to become a public scandal in the trade. In the future the districts in question will all be under one control, and this serious difficulty will no longer exist.

FOOD AND DRUGS ACT.

Food and Drugs Acts.

The administration of the Food and Drugs Acts is carried out by the Health Department, who for the purpose of purchasing samples employ one inspector, who devotes the whole of his time to the duties, and three inspectors who devote part of their time. In addition two or three other persons are employed at intervals to purchase unofficial samples, or to act as agents of the sampling officer. Each case of adulteration is considered by the Health Committee, and proceedings are taken by the officers of the Health Department. By an arrangement with the City Analyst the whole of the work is reported on by him in his annual report, so that there may be no duplication of reports.

FACTORIES AND WORKSHOPS.

Factories and workshops.

The inspection of factories and workshops is divided between the Home Office and the City Council, and as the division is by no means a very clear one there is very considerable overlapping. Neither authority has complete control over the health conditions of the workpeople. To a certain extent each authority waits for the other to take action. Naturally, the local authority is reticent in taking action which would put the manufacturers of Birmingham in a worse position than their competitors immediately outside the boundary, with the result that the condition of the workshops during a long series of years has not been improved at so quick a rate as it ought to have been.

Two male inspectors and one female inspector are employed by the Department to systematically visit workshops and the sanitary arrangements of factories. The work carried out by these inspectors is set out in the tables following, which are in a form drawn up by the Home Office:—

I.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES,

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

PREMISES. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)...	935	32	—
Workshops (including Workshop Laundries)	8074	231	—
Workplaces (other than Outworkers' premises included in Part 3 of this report)	755	9	—
Total	9764	272	—
Revisits paid ...	3158	—	—

II —DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS. (1)	Number of Defects			No. of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M.I. (4)	
Nuisances under the Public Health Acts :—				
Want of cleanliness	1331	1331	—	—
Want of ventilation	51	51	—	—
Overcrowding	7	7	—	—
Want of drainage of floors ...	6	6	—	—
Other nuisances	807	802	—	—
Sanitary accommodation—				
Insufficient	75	74	—	—
Unsuitable or defective ...	890	888	—	—
Not separate for sexes ...	67	67	—	—
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	2	2	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this report)	—	—	—	—
Total	3236	3228	—	—

III.—HOME WORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.											Inspection of Outworkers' Premises	OUTWORK IN UNWHOLESOME PREMISES, Section 108.			OUTWORK IN INFECTED PREMISES. Section 109, 110.		
	Lists received from Employers.						Addresses of Outworkers.		Notices served on Occupiers as to keeping or sending lists.	Prosecutions.								
	Sending twice in the year.			Sending once in the year.														
	Lists.	Outworkers.		Lists.	Outworkers.		Received from other Councils.	Forwarded to other Councils.		Failing to keep or permit inspection of lists.	Failing to send lists.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
		Contractors.	Workmen.		Contractors.	Workmen.												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Wearing Apparel—																		
(1) making, etc.	383	879	1807	26	54	53	105	437	...	1	7	...	2	2	...	...	...	...
(2) cleaning & washing .	...	...	...	...	...	..	...	...	...	...	...	...	...	...	..	...	...	...
Lace, lace curtains & nets	...	...	...	...	...	..	...	...	...	...	...	..	...	...	...	...	...	...
Artificial flowers	...	...	...	...	...		...	...	...	...	...	...	...	...	..	...	...	...
Nets, other than wire nets	...	...	...	.	...	...	...	.	...	...	...	...	...	...	...	...	...	...
Tents	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...
Sacks	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	.
Furniture and upholstery	4	34	16	...	...	...	...	...	...	..	...	...	...	...	...	...	...	..
Fur pulling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..
Feather sorting	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Umbrellas, etc.	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	..	...
Carding,&c.,of buttons,&c.	56	34	1919	8	1	46	31	255	...	...	1	...	5	5	...	...	..	..
Paper bags and boxes ...	46	...	366	9	...	33	...	40	...	..	...	...	1	1	..	...	...	...
Basket making	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Brush making	16	...	314	...	...	...	...	78	..	...	...	...	...	...	...	...	...	...
Racquet and tennis balls	..	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Stuffed toys	...	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
File making	2	6	...	...	...	..	...	...	...	...	...	...	...	...	...	...	..	...
Electro plate	42	206	121	3	26	1	9	21	...	...	...	...	...	...	...	...	...	...
Cables and chains... .	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	..
Anchors and grapnels ..	...	...	...	..	..	...	...	...	...	..	...	...	...	...	...	...	...	..
Cart gear	...	...	...	...		...	...	...	...	...	...	...	..	...	..	...	..	...
Locks, latches and keys..	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Pea picking	...	...	...	...	...	...	.	...	...	..	...	...	...	...	...	...	...	...
Total	554	1159	4543	46	81	133	145	831	662	1	8	1790	8	8	...	...	..	...

IV.—REGISTERED WORKSHOPS.

	Number.
Workshops on the Register (s. 131) at the end of the year	6490

V.—OTHER MATTERS.

		Number.
Matters notified to H.M. Inspector of Factories—		
Failure to affix Abstract of the Factory and Workshop Act (s. 133)		11
Action taken in matters referred to H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	Notified by H.M. Inspector	212
	Reports (of action taken) sent to H.M.	111
Other		—
Underground Bakehouses (s. 101)—		
Certificates granted during the year		—
In use at the end of the year		13

The time has come when a much higher standard of workshop accommodation should be insisted on. It is possible at the present time to employ men in underground workshops, and very little power exists to require the efficient ventilation of workshops in which men only are employed. Many of the workshops are seldom, if ever, washed out. There can be no doubt that much preventable illness is due to the dirty, dark, and ill-ventilated conditions under which workshops are occupied.

BLACK SMOKE.

Smoke nuisances.

Four smoke inspectors are employed. The whole time of these officers is occupied in making observations on chimneys in various parts of the City. Each observation lasts for an hour, and a record is made during that period of the precise time at which each emission of black smoke from the chimney commences and ceases.

Smoke nuisances—*(continued).*

Each case is judged on its merits. In the first instance cautionary letters only are sent, and if serious emissions of black smoke again occur proceedings are taken in the Police Court. The general work during the past year, as compared with previous years, is set out in the table below:—

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
No. of observations ..	15808	13445	16705	13186	10034	8229	7934	7125	9216	9945
Average number of minutes of black smoke per observation	1·34	1·26	1·27	1·39	1·95	2·27	2·29	2·17	2·24	1·99
Offences reported ..	116	139	151	231	250	251	275	243	247	218
Cautionary letters sent.	80	89	71	117	128	116	119	108	80	79
Police Court proceedings	35	50	80	98	109	115	116	111	94	75
Total amount of fines ..	£15/2/6	£33 15/0	£49/7/6	£77/10/0	£69/10/0	£82/15/0	£89/0 0	£66/12/6	£67/15/0	£45/2/6
Total amount of costs	£14/4/0	£19/8/6	£36/15/6	£37/17/6	£41/0/0	£41 19/6	£41/0/8	£38 12/6	£33/6/0	£27/0 0
Average fine	8/7	13/6	13/2	15/10	16/2	17/1	18/11	14/6	17 7	13/11

EXCREMENT DISPOSAL AND COLLECTION OF HOUSE REFUSE.

Excrement and house refuse.

On December 31st there were approximately 5,500 pan closets and 400 ashpit privies in the City, all the other houses being supplied with the water carriage system of excrement removal. Seven years ago there were over 25,000 pan closets in the City, so that within this period no less than 20,000 of these closets have been removed. This has necessitated the abolition of the works which were required for dealing with the large amount of excrement collected nightly at the various depôts, and which was formerly manufactured into poudrette. Now all the contents of the pans are mixed with dry ashes and sent by barge to farms along the canal banks. No excrement is burned. Except in the business centre of the City and in the sparsely-populated suburbs, dry refuse is collected in ashbins and removed weekly or fortnightly. It is then taken to one of six destructors, where it is burned. The destructors in question have 76 cells, and are capable of burning a maximum amount of over 3,000 tons per week.

GENERAL SANITARY INSPECTORS' WORK.

Sanitary Inspectors' work.

Birmingham is divided into eighteen districts for sanitary inspectors, there being one District Inspector for approximately every 30,000 of the population. His work consists of dealing with cases of the notifiable diseases and with all nuisances occurring in the district. Some idea

of the character of the work done is given by the following table, which shows for each quarter of the year the number of items dealt with under various headings:— Sanitary Inspectors' work— (*continued*).

YEAR 1910.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
Houses disinfected after—					
Smallpox	—	—	—	—	—
Scarlet Fever ...	623	580	630	752	2,585
Diphtheria	156	119	149	183	607
Typhoid Fever ...	18	11	32	29	90
Houses cleansed	262	411	269	320	1,262
Houses repaired	564	1,101	641	1,350	3,656
Houses put in habitable condition under the Public Health Act	3	23	—	—	26
Houses provided with better ventilation	8	45	9	43	105
Houses provided with separate water supply ...	10	12	3	5	30
Cases of overcrowding remedied	7	7	5	10	29
Houses provided with damp courses	52	161	39	75	327
Accumulations of water removed from cellars ...	126	69	63	108	366
Rain-water Spouts repaired or disconnected ...	332	464	291	317	1,404
Rain-water Cisterns disconnected or abolished...	52	60	37	57	206
Ashpit Privies converted to Water Closets	25	35	11	10	81
Pan Privies converted to Water Closets	292	455	428	348	1,523
Privies and Closets limewashed	76	179	195	202	652
Water-closets repaired or reconstructed	419	539	439	556	1,953
Additional Water Closets provided	22	27	14	16	79
Ashplaces repaired or limewashed	57	108	121	160	446
Ash Tubs provided ...	181	316	333	244	1,074
Soilpipes repaired or removed	5	6	17	5	33
Urinals put in order or closed	15	23	19	18	75
Drains relaid or repaired ...	145	306	262	179	892
Drains opened and cleansed	583	898	760	680	2,921
Yard Drains trapped with gullies	279	503	439	403	1,624
Interception traps provided on main drains... ...	27	65	77	55	224
Premises supplied with additional drains	108	113	82	111	414
Drains in cellars disconnected from sewer or abolished	5	10	7	16	38
Sink Bend Pipes repaired or affixed	30	37	16	31	114
Sanitary Sinks provided...	170	276	253	239	938
Yards paved	22	19	12	51	104

YEAR 1910—*continued*

Sanitary Inspectors work—*(continued).*

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.
Yards repaired	130	174	117	104	525
Courts or Yards cleansed by Tenants	71	27	6	21	125
Wash-houses repaired or limewashed	84	171	184	155	594
Premises from which fowls, etc., have been removed	8	19	14	15	56
Nuisances from swine and swine styes abated ...	8	7	1	5	21
Accumulations of rubbish, manure, etc., removed ...	53	51	64	44	212
Manure receptacles provided or repaired ...	3	17	18	8	46
Dangerous premises reported to City Surveyor's Department	105	57	61	59	282
Defective Fittings reported to Water Department...	274	201	129	118	722
Miscellaneous Nuisances ...	8	21	66	16	111

HEALTH VISITORS' WORK.

Health Visitors' work.

There is one Superintendent and fifteen Health Visitors. The City is divided into fifteen districts for their work, and each has not only to visit the babies born in her particular district where such visits are required, but also to make periodic house-to-house visits in the poorer areas, to visit houses in which cases of measles, chickenpox, whooping cough, and mumps occur, to deal with a large number of reported cases from the schools of ringworm, verminous conditions, itch, and many other important matters occurring in the district.

It will be noted from the table below that much of the work is of a delicate nature, requiring prudence and tact in dealing with it. It is therefore pleasant to be able to record that during the year in practically no case was any serious objection raised to these visits, while, on the contrary, the general statement may be made that everywhere the Birmingham Health Visitors are welcomed as the friendly advisers of the people. It is true that a single visit to a careless, neglectful mother will not alter the habits of life of such a woman, and that she will backslide as soon as the visit is past, but while this is so the information given by the Health Visitor is having effect, and is producing cleaner homes and getting the children better looked after.

It will be noted in the table below that no less than 11,738 babies were visited shortly after birth. It will be noted also that no fewer than 5,572 children having

vermin on their heads or bodies, or ringworm, or scabies, were visited as the result of the information derived from school teachers, who report whenever children appear to be in an unclean condition. Altogether about 10,000 visits were made as the result of information derived from the school teachers. These were all primary visits, in many cases necessitating several subsequent visits which are not included in the above figures. Health Visitors' work—(*continued*).

HEALTH VISITORS' WORK.

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total.
PRIMARY VISITS—					
Systematic	400	516	882	414	2,212
Births	3,215	3,139	3,008	2,376	11,738
Diarrhœa Deaths ...	46	40	123	95	304
Measles	26	69	132	1,006	1,233
Chicken-pox	201	369	121	246	937
Whooping Cough ...	676	570	101	90	1,437
Mumps	254	199	93	180	726
Vermin—					
(*a*) Head	—	540	449	433	
(*b*) Body	—	74	89	96	
(*c*) Head and Body	—	63	33	32	
	1,130	1,613	1,164	1,665	5,572
Ringworm—					
(*a*) Scalp	—	123	83	82	
(*b*) Elsewhere ...	—	70	24	39	
(*c*) Scalp & elsewhere	—	10	4	7	
Scabies	—	58	19	35	
Unclass. School Cases	—	675	463	941	
Special Inquiries ...	—	123	126	119	
	2,093	774	1,015	819	4,701
Other Visits (not included in above) ...	—	651	889	700	
Total	8,041	7,289	6,639	6,891	28,860
Re-visits	5,715	6,030	5,435	4,988	22,168
GRAND TOTAL ...	13,756	13,319	12,074	11,879	51,028

CLEANSING OF VERMINOUS CHILDREN.

During the year a station for the cleansing of verminous school children was established by the Education Committee at one of the public elementary schools, and towards the end of the year a few children were cleansed. The work is carried out by the Health Department. It is expensive, and although quite efficient so far as the operation of cleansing is concerned, the general effect on the parent is by no means Verminous children.

Verminous children—*continued*.

satisfactory, nor is it a quick and rapid way of getting at what is actually required, viz., the effective cleansing of the children in the homes. A child sent to school in a verminous and dirty condition should be sent home, and a notice sent to the parents to cleanse it within 24 hours, and send it back to school. If this is not done, or if the child is again sent in a verminous condition within a definite period, proceedings should be taken against the parents. It is unfair that clean children should be exposed to the risk of infection. Some of the school teachers have by their personality been able to practically free their schools of verminous children, very much to their credit. In one instance one of our largest infants' departments in one of the poorest areas of the City is kept in a condition almost entirely free from vermin, while close at hand in another school the girls' department was found to be verminous to the extent of 41 per cent. of the children, on whom head and body vermin were detected, and 97 per cent. on whom body or head vermin or nits were discovered.

The number of girls with verminous heads found in schools examined by the school nurses amounted to 50 per cent. Probably this is an under-estimate, as it is extremely difficult to be sure on a casual examination that a child's head is free from vermin; and again it is equally difficult to be sure whether nits in the head are alive or not. The number of children who suffer from vermin is a good indication of the general dirtiness amongst the poorer class of the population. Much more drastic measures are required in dealing with dirty and neglectful people than exist at the present time. It is much to be desired that in any further legislation for Birmingham as a whole the question of personal cleanliness should be considered. Formerly such was thought to be of little importance other than to the individual. There is now no doubt of the fact that such homes and such people are a great danger to others, and that it is not well to allow people who are unclean to mix with ordinary people.

APPENDIX.

TABLE I.—VITAL STATISTICS OF WHOLE DISTRICT DURING 1910 AND PREVIOUS YEARS.

Year.	Population estimated to middle of each year.	Births.		Deaths Under 1 year of Age.		Total Deaths Registered at all Ages.		Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in the District.	Deaths of Residents registered beyond the District.	Nett Deaths at all Ages belonging to the District.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1900	519,610	16,941	32·7	3,366	199	10,756	20·8	1,911	267	393	10,882	21·0
1901	523,284	16,735	32·1	3,150	188	10,357	19·8	1,802	302	347	10,402	19·9
1902	528,181	†17,103	31·9	†2,681	157	†9,577	17·8	†2,082	†312	†407	†9,672	18·0
1903	533,039	16,866	31·7	2,668	158	9,056	17·0	1,916	321	388	9,123	17·2
1904	537,965	16,902	31·5	3,302	195	10,235	19·1	2,008	332	437	10,340	19·3
1905	542,959	15,795	29·2	2,451	155	8,588	15·9	1,838	362	492	8,718	16·1
1906	548,022	16,016	29·3	2,686	168	9,067	16·6	1,923	380	485	9,172	16·8
1907	553,155	15,619	28·3	2,300	147	8,744	15·8	2,054	397	532	8,879	16·1
1908	558,357	†16,141	28·4	†2 339	145	†8,855	15·6	†2,205	†401	†538	†8,992	15·9
1909	563,629	14,985	26·7	2,030	135	8,583	15·3	2,086	433	541	8,691	15·5
Averages for years 1900-1909	540,820	16,310	30·2	2,697	165	9,382	17·4	1,982	351	456	9,487	17·6
1910	570,113	14,898	26·2	1,937	130	7,693	13·5	2,038	446	530	7,777	13·7

* Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population.

† 53 weeks.

Area of District in acres, 13,477.

Total population at all ages at Census of 1901 522,204.
Number of inhabitated houses ,, ,, 107,831.
Average number of persons per house at Census of 1901, 4·8.

TABLE II.—VITAL STATISTICS OF SEPARATE LOCALITIES IN 1910 AND PREVIOUS YEARS.

Year.	Population estimated to the middle of each year.	Deaths at all ages.	Death rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000.	Population estimated to the middle of each year.	Deaths at all ages.	Death-rate per 1,000
Wards	Rotton Park.			All Saints'.			Ladywood.			St. Paul's.			St. George's.			St. Stephen's.		
1901	46,835	752	16·1	41,444	725	17·5	25,089	502	20·0	14,954	338	22·6	20,230	469	23·2	23,765	633	26·6
1902	46,088	677	14·4	41,834	659	15·5	25,128	444	17·3	15,552	289	18·2	20,434	449	21·6	23,720	640	26·5
1903	46,887	650	13·9	42,101	662	15·7	25,253	448	17·8	15,561	299	19·2	20,412	425	20·8	23,768	499	21·0
1904	47,658	821	17·2	43,033	769	17·9	25,284	509	20·1	15,669	336	21·5	20,425	439	21·5	23,615	582	24·7
1905	48,530	680	14·0	42,232	618	14·6	24,842	413	16·6	15,543	244	15·7	20,350	383	18·8	23,284	465	20·0
1906	49,393	668	13·5	42,513	726	17·1	24,704	419	17·0	15,088	280	18·6	20,451	405	19·8	23,035	540	23·4
1907	50,788	676	13·3	43,959	618	14·1	24,815	390	15·7	14,483	247	17·1	20,080	388	19·3	23,275	494	21·2
1908	50,618	645	12·7	43,575	681	15·6	24,802	394	15·9	14,112	252	17·9	19,452	430	22·1	22,432	517	23·1
1909	49,421	656	13·3	43,257	611	14·1	24,253	410	16·9	13,249	237	17·9	18,741	386	20·6	22,024	512	23·2
1910	49,659	556	11·2	43,903	580	13·2	24,369	356	14·6	13,901	214	15·4	19,139	301	15·7	21,670	405	18·7
Wards	St. Mary's.			St. Bartholomew's.			Market Hall.			St. Thomas'.			St. Martin's.			Edgb. & Harborne		
1901	15,904	472	29·7	26,857	696	25·9	9,807	171	17·4	19,215	402	20·9	23,950	485	20·3	30,795	402	13·1
1902	15,993	405	24·8	26,876	678	24·6	9,570	165	16·9	18,586	381	20·1	24,097	499	20·3	31,200	390	12·3
1903	16,248	375	23·1	26,572	647	24·4	9,483	154	16·3	18,559	347	18·7	24,019	404	16·8	31,311	380	12·1
1904	15 859	382	24·1	25,801	741	28·7	9,163	162	17·7	18,764	338	18·0	24,469	461	18·8	31,287	399	12·7
1905	15,551	325	20·9	24,762	571	23·1	9,049	154	17·0	18,563	315	17·0	24,662	395	16·0	31,002	345	11·1
1906	13,891	316	22·8	24,666	570	23·1	9,451	152	16·1	18,088	376	20·8	23,928	422	17·6	32,781	382	11·7
1907	13,386	287	21·4	23,043	543	23·6	8,930	153	17·1	17,361	317	18·3	24,116	396	16·4	33,215	394	11·9
1908	11,929	309	25·9	22,759	542	23·8	8,815	141	16·0	17,439	310	17·8	23,450	375	16·0	32,896	362	11·0
1909	12,357	312	25·2	22,039	513	23·3	8,774	128	14·6	17,252	322	18·7	22,702	381	16·8	33,104	361	10 9
1910	12,569	268	21·3	22,303	469	21·0	8,409	94	11·2	17,106	287	16·8	22,835	325	14·2	34,699	365	10·5
Wards	Deritend.			Bordesley.			Duddeston.			Nechells.			Balsall Heath.			Saltley		
1901	24,704	550	22·3	54,686	843	15·4	23,921	555	23·2	33,624	760	22·6	38,827	582	15·0	42,250	741	17·6
1902	24,516	507	20·3	55,606	761	13·4	23,773	517	21·3	33,384	636	18·7	39,025	589	14·8	44,185	679	15·1
1903	24,077	517	21·5	56,825	758	13·3	23,541	463	19·7	33,710	570	16·9	39,359	531	13·5	45,427	714	15·7
1904	24,157	532	22·0	55,596	843	15·2	23,451	538	22·9	33,346	765	22·9	40,140	595	14·8	46,761	784	16·8
1905	23,723	489	20·6	58,464	782	13·4	23,395	469	20·1	32,827	588	17·9	40,412	517	12·8	47,318	641	13·5
1906	23,770	537	22·6	59,818	800	13·4	22,926	428	18·7	33,696	672	19·9	40,956	505	12·3	50,796	683	13·4
1907	23,180	493	21·3	61,032	791	12·9	23,049	478	20·7	32,314	662	20·5	40,269	548	13·6	53,524	694	13·0
1908	22,746	473	20·8	62,018	778	12·5	22,174	461	20·8	32,741	673	20·6	40,260	550	13·7	53,914	732	13·6
1909	21,863	443	20·3	62,004	737	11·9	21,701	441	20·3	32,218	619	19·2	40,274	564	14·0	55,562	684	12·3
1910	21,769	430	19·8	62,891	695	11·1	21,739	369	17·0	32,251	561	17·4	40,309	473	11·8	61,043	673	11·0

Note.—The inmates of large Institutions are not included in the Ward populations, and the deaths amongst them have been referred, as far as possible, to the Wards in which the deceased persons had previously resided.

TABLE III.

Cases of Infectious Disease Notified during the Year 1910, classified according to ages, wards, and institutions.

Disease.	Ages.													Wards.																	Institutions.	City.
	Under 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 to 75.	75 to 85.	85 and up.	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston and Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley.		
Smallpox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ...	18	682	1223	517	112	66	68	18	3	2	..	...	...	368	241	130	38	66	65	35	66	14	32	59	228	43	373	123	170	174	409	75	2709
Diphtheria... ..	5	162	205	84	43	21	47	8	4	1	1	...	...	53	49	25	11	15	20	20	26	6	20	22	43	16	69	18	24	56	53	45	591
Typhus Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhoid Fever ...	..	...	4	5	9	14	23	11	6	1	...	...	...	6	8	...	4	2	10	3	5	...	2	4	4	2	4	2	4	3	4	6	73
Continued Fever..	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..
Puerperal Fever ..	...	...	...	...	1	5	16	7	...	...	...	...	...	1	3	3	...	...	1	...	1	...	...	...	3	2	4	4	3	...	4	...	29
Cholera	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas .. .	16	36	19	14	28	21	54	95	102	90	49	17	1	51	43	34	13	21	23	12	25	3	20	13	24	17	48	38	53	30	46	28	542
Totals .	39	880	1451	620	193	137	208	139	115	94	50	17	1	479	344	192	66	104	119	70	123	23	74	98	302	80	498	185	254	263	516	154	3944

TABLE IV.

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 31st, 1910.

DISEASES.	AGES.													All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Smallpox—																
(*a*) Vaccinated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*b*) Unvaccinated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(*c*) No Statement	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	7	30	4	..	..	..	..	..	..	..	..	..	..	21	20	41
Scarlet Fever	2	40	31	7	2	1	1	1	..	..	..	..	..	44	41	85
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	2	2	..	..	3	2	4	7	8	13	17	9	1	36	32	68
Whooping Cough	95	116	4	..	..	..	..	..	..	..	..	..	..	97	118	215
Diphtheria, Membranous Croup	1	39	18	3	1	1	..	1	..	..	..	..	..	32	32	64
Enteric Fever	..	..	2	..	6	3	7	3	3	..	..	..	..	11	13	24
Asiatic Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery	92	31	..	..	..	..	..	..	2	1	2	3	..	62	69	131
Epidemic Enteritis	57	22	..	..	..	..	..	..	..	..	1	..	..	40	40	80
Epid. Cerebro Spinal Meningitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Varicella	2	..	..	..	..	..	..		..	..	..	..	..	2	..	2
Epidemic Rose-rash	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mumps	1	..	1	..	..	..	..	..	..	..	..	..	..	1	1	2
Hydrophobia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders, Farcy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Anthrax, Splenic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cowpox, Acc. of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Syphilis	28	1	1	..	1	..	1	3	..	1	..	..	..	25	11	36
Gonorrhœa	.	..	..	..	..	1	..	..	1	..	1	..	..	2	1	3
Phagedæna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	6	1	..	1	..	..	..	..	4	1	3	2	1	11	8	19
Puerperal Fever	..	..	..	..	1	2	12	8	..	..	..	..	..	..	23	23
Pyæmia, Septicæmia	8	2	1	..	1	3	..	..	1	1	1	..	..	10	8	18
Infective Endocarditis	..	1	..	2	..	..	3	1	..	1	..	..	..	3	5	8
Cancrum Oris	1	2	..	..	..	..	..	..	..	..	..	..	..	1	2	3
Stomatitis	3	1	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Carbuncle	..	..	..	..	..	..	..	2	..	2	..	..	1	2	3	5
Cellulitis	..	1	..	..	..	..	1	..	..	1	4	1	..	6	2	8
Malarial Fever	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Rheumatic Fever	..	..	1	3	..	1	2	1	1	2	1	..	..	6	6	12
Rheumatism of Heart	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
Tuberculosis of Brain	24	40	7	1	1	..	..	2	1	..	..	..	..	46	30	76
Tuberculosis of Larynx	..	..	..	.	..	2	1	..	2	..	..	..	..	3	2	5
Phthisis	4	13	4	7	24	60	157	169	138	68	12	1	..	424	233	657
Abdominal Tuberculosis	13	17	4	..	..	2	1	..	..	1	..	..	..	23	15	38
General Tuberculosis	13	12	4	6	..	..	6	5	2	2	1	..	..	25	26	51
Other forms of Tuberculosis	2	1	4	2	..	3	4	3	..	..	..	..	..	12	7	19
Thrush	4	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Actinomycosis	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1
Hydatid Diseases	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
Scurvy	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Ptomaine Poisoning	..	..	2	..	..	..	1	..	..	..	..	..	..	1	2	3
Acute Alcoholism	..	..	..	..	..	..	3	2	7	1	..	..	..	5	8	13
Chronic Alcoholism	..	..	..	..	..	..	2	3	1	..	..	..	..	2	4	6
Lead Poisoning	..	..	..	..	..	..	..	1	1	..	..	..	..	2	..	2
Osteo-arthritis Rheumatoid-arthritis	..	..	..	..	..	1	1	1	6	3	5	3	2	6	16	22
Gout	..	..	..	..	..	..	..	..	1	3	1	..	..	4	1	5
Cancer	..	1	..	2	2	3	13	43	113	142	120	29	1	236	233	469
Diabetes Mellitus	..	..	..	..	1	..	4	4	8	9	8	4	..	17	21	38
Purpura Hæmorrhagica	1	1	..	..	..	..	..	1	..	..	..	..	..	1	2	3
Hæmophilia	1	..	1	..	..	..	..	..	..	..	..	..	..	2	..	2
Anæmia, Leucocythæmia	..	1	2	..	1	1	1	1	5	8	..	1	..	8	13	21
Lymphadenoma, Hodgkin's Dis.	..	..	..	..	..	..	..	..	..	2	..	..	..	1	1	2
Premature Birth	331	..	..	..	..	..	..	..	..	..	..	..	..	184	147	331
Injury at Birth	11	..	..	..	..	..	..	..	..	..	..	..	..	9	2	11
Debility at Birth	141	2	..	..	..	..	..	..	..	..	..	..	..	83	60	143
Atelectasis	29	..	..	..	..	..	..	..	..	..	..	..	..	15	14	29

TABLE IV.—*continued.*

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 31st, 1910.

DISEASES.	AGES.													All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85.	Males.	Females.	Persons.
Congenital Defects	50	2	3	..	1	1	..	..	..	..	..	..	..	31	26	57
Want of Breast Milk	15	2	..	..	..	..	..	..	..	..	..	..	..	11	6	17
Atrophy, Debility, Marasmus	194	48	1	..	..	..	..	..	..	..	..	..	..	137	106	243
Dentition	7	4	..	..	..	..	..	..	..	..	..	..	..	8	3	11
Rickets	6	12	..	..	..	..	..	..	..	..	..	..	..	11	7	18
Old Age, Senile Decay	..	..	..	..	..	..	..	..	..	9	116	159	60	140	204	344
Convulsions	99	11	..	..	..	..	..	..	1	..	..	..	..	62	49	111
Meningitis	49	19	16	3	2	2	3	7	4	3	..	..	..	75	63	138
Encephalitis	..	..	1	..	3	1	1	1	..	..	..	..	..	2	5	7
Apoplexy	..	..	..	..	1	..	..	1	5	11	17	9	1	24	21	45
Softening of Brain	..	..	..	1	..	..	..	..	1	6	9	11	3	16	15	31
Hemiplegia	..	..	..	..	..	..	1	1	8	12	14	15	1	24	28	52
General Paralysis of Insane	..	..	..	..	..	..	5	8	10	2	..	..	..	20	5	25
Other forms of Insanity	..	..	..	..	..	..	1	..	2	5	7	1	..	12	4	16
Chorea	..	..	..	..	1	..	1	..	..	..	..	..	..	1	1	2
Cerebral Tumour	..	..	..	..	..	2	3	2	..	3	1	..	..	5	6	11
Epilepsy	..	2	..	..	4	2	9	4	7	7	3	3	..	23	18	41
Laryngismus Stridulus	3	1	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Locomotor Ataxy	..	..	..	..	..	..	..	1	3	2	..	..	..	6	..	6
Paraplegia, Diseases of Cord	..	1	..	..	1	2	3	2	5	6	8	1	1	17	13	30
Cerebral Congestion	..	..	..	..	..	..	..	..	1	1	1	1	..	4	..	4
Cerebral Effusion	..	..	..	..	..	..	1	..	1	1	..	..	1	3	1	4
Cerebro-Spinal Meningitis	..	..	2	..	..	..	..	..	..	..	..	..	..	2	..	2
Neuritis	..	..	..	..	..	..	2	7	5	1	3	..	..	5	13	18
Other Diseases of Brain or Nerves	..	..	..	..	..	..	..	..	4	3	1	3	..	8	3	11
Otitis, Mastoid Disease	5	5	..	1	3	1	3	1	..	..	..	..	..	9	10	19
Disease of Nose, Epistaxis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Eye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pericarditis	1	..	..	2	..	1	4	..	..	..	..	..	..	6	2	8
Endocarditis, Valvular Disease	1	3	1	7	5	2	21	24	40	46	38	13	..	92	109	201
Hypertrophy of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Angina Pectoris	..	..	..	..	..	..	..	1	1	1	3	2	..	7	1	8
Aneurism	..	..	..	..	..	1	1	1	6	..	..	2	..	7	4	11
Senile Gangrene	..	..	..	..	..	..	..	..	..	2	13	8	1	12	12	24
Embolism, Thrombosis	..	..	..	..	..	..	3	2	7	9	19	9	1	27	23	50
Phlebitis	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2	2
Varicose Veins	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
Cardiac Dilatation	..	..	..	..	..	..	1	5	6	3	1	2	..	10	8	18
Heart Disease (not defined)	11	1	4	9	14	5	18	30	77	72	102	34	3	181	199	380
Other Diseases of Heart	..	1	..	..	..	..	2	1	7	15	11	4	3	29	15	44
Atheroma	..	..	..	..	..	..	..	..	..	2	1	1	..	3	1	4
Arterio-sclerosis	..	..	..	..	..	..	..	..	1	2	8	5	..	11	5	16
Cerebral Hæmorrhage	..	..	..	1	1	1	1	7	31	53	70	46	4	98	117	215
Other Diseases of Blood Vessels	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	2
Laryngitis	3	3	1	1	..	..	..	..	..	..	2	..	..	5	5	10
Croup	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Acute Bronchitis	127	50	3	..	..	1	1	2	13	20	16	9	2	132	112	244
Chronic Bronchitis	2	..	4	1	..	2	4	28	51	132	183	126	13	287	259	546
Lobar Pneumonia	12	10	4	1	3	3	20	22	24	21	13	6	..	92	47	139
Lobular Pneumonia	151	127	12	3	..	1	1	6	4	8	14	7	..	181	153	334
Pneumonia (not defined)	31	44	9	2	1	6	13	22	26	31	23	15	..	120	103	223
Emphysema, Asthma	..	..	..	..	..	..	..	..	7	3	2	..	..	4	8	12
Pleurisy	1	3	1	..	1	..	4	4	2	4	6	3	..	20	9	29
Fibroid Phthisis	..	..	..	..	..	..	..	..	1	1	..	1	..	2	1	3
Bronchiectasis	..	..	2	..	..	..	..	1	..	1	..	1	..	4	1	5
Other Dis. Respiratory System	..	..	..	..	..	..	..	1	1	..	1	..	..	1	2	3
Quinsy	..	..	1	..	1	..	..	..	..	2	..	..	..	3	1	4
Diseases of Pharynx	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of Œsophagus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ulcer of Stomach and Duodenum	..	..	..	1	1	2	4	7	6	7	..	..	..	14	14	28
Other Diseases of Stomach	42	13	2	1	..	..	..	3	7	4	6	..	1	40	39	79
Enteritis	125	39	2	1	1	..	2	3	5	9	10	4	..	101	100	201
Appendicitis	..	..	5	6	4	2	5	3	1	2	2	..	..	18	12	30
Obstruction of Intestine	6	2	1	..	1	1	..	3	6	12	17	3	1	31	22	53
Other Diseases of Intestine	..	1	..	..	..	..	..	..	..	..	..	1	..	1	1	2
Cirrhosis of Liver	..	..	1	..	..	..	2	12	18	16	6	2	..	19	38	57
Other Diseases of Liver	..	..	..	..	1	..	..	2	3	7	7	3	..	9	14	23
Peritonitis	..	4	3	..	..	..	3	2	1	1	2	1	..	5	12	17
Other Dis. of Digestive System	..	..	1	..	..	..	..	3	1	1	1	..	..	4	3	7

TABLE IV.—*continued.*

Deaths Registered in or Belonging to the City of Birmingham during the Year ending December 31st, 1910.

DISEASES.	AGES.													All Ages.		
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	75—	85—	Males.	Females.	Persons.
Diseases, Lymphatic System and Ductless Glands	3	1	1	..	..	..	2	1	2	2	3	1	..	6	10	16
Acute Nephritis	1	4	2	3	2	1	8	14	21	16	8	4	..	54	30	84
Bright's Disease	..	1	..	1	3	3	7	14	21	26	20	4	..	58	42	100
Calculus	..	..	1	..	..	1	..	..	1	1	..	..	..	..	4	4
Diseases of Bladder and Prostate	..	..	..	..	..	..	..	..	1	10	8	8	2	26	3	29
Other Diseases, Urinary System	1	..	..	..	..	2	..	1	1	1	1	1	..	6	2	8
Diseases of Testis and Penis	..	..	..	..	..	.	1	..	..	..	..	..	..	1	..	1
Diseases of Ovaries	..	..	..	..	..	..	..	2	2	..	..	..	..	..	4	4
Diseases of Uterus and Appendages	..	..	..	..	..	..	4	4	3	..	..	..	..	..	11	11
Diseases of Vagina and External Genitals	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Diseases of Breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Abortion, Miscarriage	..	..	..	..	..	..	1	1	..	..	..	..	..	..	2	2
Puerperal Mania	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Convulsions	..	..	..	..	2	2	2	3	..	..	..	..	..	..	9	9
Placenta Prævia, Flooding	..	..	..	..	..	..	4	4	1	..	..	..	..	..	9	9
Puerperal Thrombosis	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
"Parturition"	..	..	..	..	..	..	1	2	..	..	..	..	..	..	3	3
Other Diseases, Pregnancy and Childbirth	..	..	.	..	..	4	1	..	..	..	..	..	..	..	5	5
Arthritis, Ostitis, Periostitis	1	3	..	..	2	..	2	..	..	..	2	..	..	5	5	10
Other Diseases, Osseous System	..	..	1	..	..	..	..	1	1	..	..	..	..	1	2	3
Ulcer, Bedsore	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	2
Eczema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pemphigus	3	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Other Diseases, Integumentary System	..	1	..	..	..	..	..	..	..	..	..	1	1	1	2	3
By Accidents or Negligence:																
In Mines and Quarries	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..
In Vehicular Traffic	..	4	3	..	1	1	1	3	1	3	1	2	..	13	7	20
On Railways	..	..	2	..	1	1	..	2	..	1	..	..	..	7	..	7
On Ships, Boats, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
In Building Operations	..	..	..	..	..	..	..	3	..	..	1	..	..	4	..	4
By Machinery	..	..	..	..	..	1	..	2	..	..	..	..	..	3	..	3
By Weapons and Implements	..	..	..	1	..	..	..	1	..	..	..	..	..	1	1	2
Burns and Scalds	3	28	14	3	1	1	1	..	1	1	2	2	..	22	35	57
Poisons, Poisonous Vapours	..	..	..	..	1	..	..	..	2	1	..	..	..	2	2	4
Surgical Narcosis	2	..	1	2	..	..	..	1	1	..	..	..	..	3	4	7
Effects of Electric Shock	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Corrosion by Chemicals	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Drowning	..	2	5	2	2	..	3	4	8	5	1	..	..	25	7	32
Suffocation, Overlaid in Bed	81	3	..	..	..	..	..	..	..	..	..	..	..	42	42	84
,, Otherwise	6	..	..	..	..	..	2	1	1	1	1	..	..	4	8	12
Falls not specified	2	..	..	..	1	..	..	4	4	6	9	8	3	10	27	37
Weather Agencies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otherwise, not stated	10	..	..	1	1	..	1	..	1	..	..	2	..	13	3	16
Homicide	..	1	..	..	1	..	1	..	..	..	..	..	..	3	..	3
Suicides:																
By Poison	..	..	..	..	1	4	4	1	1	1	1	..	..	5	8	13
By Asphyxia	..	..	..	..	..	..	1	1	1	..	..	..	..	3	..	3
By Hanging and Strangulation	..	..	..	..	..	..	3	3	1	5	1	..	..	11	2	13
By Drowning	..	..	..	..	..	1	1	1	2	2	..	..	..	5	2	7
By Shooting	..	..	..	..	..	2	.	..	1	..	..	..	..	3	..	3
By Cut or Stab	..	..	..	..	..	..	2	3	4	2	4	..	..	15	..	15
By Precipitation from Elevated Places	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
By Crushing	..	..	..	..	..	..	1	..	1	1	..	..	..	3	..	3
By other and Unspecified Methods	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
Execution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudden Death, cause not ascertained	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ill-defined & Unspecified Causes	2	..	..	1	..	..	1	1	4	4	1	.	..	8	6	14
Totals	1937	864	202	89	113	150	422	569	805	914	1004	598	110	4133	3644	7777

TABLE V.

Births and Deaths Registered in, or Belonging to, each Ward during the Year ending December 31st, 1910.

CAUSES OF DEATH.	WARDS.																			
	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley.	Not located.	City.
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	1	1	..	7	4	7	..	..	.	3	.	9	..	..	3	1	5	..	41
Scarlet Fever	13	8	6	..	3	4	3	4	..	1	2	2	..	4	6	6	3	20	..	85
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic Influenza	10	3	4	1	3	1	..	1	2	3	8	7	2	12	1	1	3	4	2	68
Whooping Cough	10	24	12	6	12	5	6	21	1	11	10	11	11	22	4	10	15	17	7	215
Diphtheria, Memb. Croup	9	3	1	4	2	1	3	2	..	5	2	3	1	10	1	4	5	8	..	64
Croup	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Enteric Fever	4	3	1	1	..	1	1	1	..	..	..	2	2	1	..	2	2	3	..	24
Asiatic Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery	7	7	6	4	8	17	3	8	3	4	8	2	9	5	5	20	4	8	3	131
Epidem. or Zymotic Enteritis	4	8	1	5	10	9	4	6	..	3	2	..	1	3	4	10	3	7	..	80
Enteritis	13	16	10	8	8	16	8	18	1	4	7	5	9	20	8	16	5	13	17	201
Other Continued Fevers	2	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	4
Erysipelas	..	..	..	1	1	1	..	2	..	..	2	1	2	2	2	2	..	2	1	19
Puerperal Fever	1	2	1	..	..	..	..	2	..	1	..	4	1	3	5	2	..	1	..	23
Other Septic Diseases	2	6	5	1	1	2	..	3	..	3	2	5	3	5	..	3	..	2	3	46
Intermittent Fever and Malarial Cachexia	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Tuberculosis of Meninges	9	4	11	4	3	3	4	1	..	3	6	..	3	7	3	4	1	10	..	76
Tuberculosis of Lungs	36	54	24	28	27	47	29	46	8	29	32	19	48	59	25	39	29	55	23	657
Abdominal Tuberculosis	2	1	1	2	1	1	3	..	..	1	..	3	2	6	6	5	1	2	1	38
Other forms of Tuberculosis	6	7	5	2	..	1	5	5	..	3	4	2	2	9	3	6	7	8	..	75
Alcoholism	2	1	1	..	..	..	..	..	1	..	4	..	4	2	1	1	..	..	2	19
Cancer	39	32	28	6	14	23	8	17	10	19	17	35	35	48	23	25	37	39	14	469
Premature Birth	24	38	19	6	16	23	3	22	1	14	12	8	14	29	14	29	16	37	6	331
Congenital Defects	19	6	8	5	12	11	9	15	1	5	5	9	27	26	20	28	14	16	4	240
Developmental Diseases	18	22	12	17	11	23	8	27	5	12	14	6	29	23	13	15	10	16	8	289
Old Age	18	19	13	8	13	10	6	17	1	10	15	23	14	36	26	23	30	25	37	344
Meningitis	15	14	4	6	3	6	5	9	2	7	5	3	7	9	7	13	8	13	2	138
Convulsions	4	5	2	..	6	6	6	7	..	3	7	2	9	8	11	10	6	18	1	111
Diseases of Heart	58	63	30	11	19	28	22	28	10	21	30	38	23	65	31	39	60	60	23	659
Cerebral Hæmorrhage	14	14	11	5	8	6	10	6	8	5	7	11	14	22	12	15	22	13	12	215
Bronchitis	49	53	22	21	38	34	38	73	9	26	28	29	43	63	45	56	36	72	55	790
Pneumonia	49	50	24	17	34	42	25	54	9	39	28	33	29	50	32	63	28	77	22	696
Diseases of Stomach	5	1	3	3	..	9	6	3	2	..	6	3	9	16	7	17	8	8	1	107
Obstruction of Intestines	3	6	5	..	..	3	2	4	..	2	5	1	4	4	..	4	5	1	4	53
Cirrhosis of Liver	5	3	3	5	2	7	2	3	1	1	5	4	1	1	4	3	3	4	..	57
Nephritis and Bright's Dis.	12	15	10	8	4	9	2	7	4	4	9	15	11	26	6	12	12	11	6	184
Tumours and other Affections of Female Genital Organs	..	.	2	..	..	..	..	..	..	1	..	4	2	3	.	1	2	1	..	16
Accidents and Diseases of Parturition	5	3	..	..	1	2	2	1	..	1	1	2	1	2	2	4	1	1	..	29
Accidents or Negligence	22	13	23	4	9	21	17	20	3	14	5	8	12	24	8	21	19	25	17	285
Suicides	4	4	6		1	2	..	5	1	1	8	3	3	5	2	2	4	8	..	59
Ill-defined Causes	1	1	..	.	..	..	1	..	..	..	..	1	..	1	3	..	2	3	1	14
All other Causes	71	70	41	25	24	28	19	30	11	31	26	59	34	64	28	47	71	60	84	823
Total Deaths	556	580	356	214	301	405	268	469	94	287	325	365	430	695	369	561	473	673	356	7777
Deaths under One Year	128	150	86	58	92	125	70	142	19	79	78	50	128	165	110	175	83	159	40	1937
Births	1280	1333	97	322	656	767	347	707	128	521	527	676	723	1551	732	1123	965	1605	238	14898

TABLE VI.

Deaths, under 1 year, Registered in, or belonging to, each Ward during the Year ending December 31st, 1910.

CAUSES OF DEATH.	WARDS.																			
	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas'.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath	Saltley.	Not located.	City.
Smallpox	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	..	..	1	..	..	..	..	..	..	..	2	..	1	..	..	1	..	2	..	7
Scarlet Fever	..	1	..	..	..	..	..	..	..	..	..	..	..	..		1	..	..	..	2
Epidemic Influenza	1	..	..	..	..	..	..	..	.	1	..	..	..	..	..	..	..	..	..	2
Whooping Cough	4	14	4	4	3	1	4	8	1	9	6	6	3	9	2	4	5	6	2	95
Diphtheria, Memb. Croup	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa, Dysentery	4	3	6	3	5	13	2	6	3	3	7	2	6	3	4	16	3	3	..	92
Epidem. or Zymotic Enteritis	2	6	1	3	6	8	3	4	..	2	2	..	1	2	2	7	2	6	..	57
Enteritis	9	11	4	8	6	9	7	11	..	3	5	2	6	11	7	9	2	8	7	125
Other continued Fevers	1	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	3
Erysipelas	..	..	..	..	1	..	..	..	..	..	1	..	2	1	..	..	..	1	..	6
Other Septic Diseases	1	3	2	1	1	..	..	..	..	..	..	..	2	..	..	2	..	..	..	12
Tuberculosis of Meninges	3	..	4	1	..	..	1	..	..	2	2	..	..	3	2	3	..	3	..	24
Tuberculosis of Lungs	1	.	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	4
Abdominal Tuberculosis	2	..	..	1	1	..	..	..	..	..	..	2	..	1	3	2	..	1	..	13
Other Forms of Tuberculosis	..	2	..	1	..	..	..	3	..	2	..	..	..	3	..	3	1	..	..	15
Cancer	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Premature Birth	24	38	19	6	16	23	3	22	1	14	12	8	14	29	14	29	17	36	6	331
Congenital Defects	17	6	7	5	12	10	9	15	1	5	5	8	27	25	19	27	13	16	4	231
Developmental Diseases	14	14	7	13	10	15	6	19	6	8	14	6	20	19	12	9	9	15	6	222
Meningitis	5	7	1	2	2	..	..	4	1	3	2	1	3	5	..	7	3	3	..	49
Convulsions	3	4	1	..	6	5	4	7	..	3	5	2	9	8	10	10	6	16	..	99
Diseases of Heart	1	6	..	..	..	..	..	..	..	..	1	1	1	1	..	1	1	..	..	13
Cerebral Hæmorrhage	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bronchitis	10	9	3	5	5	9	7	17	1	4	2	3	10	16	7	10	..	11	..	129
Pneumonia	10	13	10	3	13	18	8	16	3	14	4	3	8	12	14	11	8	20	6	194
Diseases of Stomach	..	..	..	..	..	5	3	1	..	..	3	..	8	7	2	7	3	2	1	42
Obstruction of Intestines	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	6
Nephritis and Bright's Dis.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Accidents or Negligence	8	4	10	..	4	8	11	7	1	3	3	2	4	8	7	10	6	6	2	104
Ill-defined Causes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2
All other Causes	7	8	4	2	1	1	2	1	1	3	1	4	2	2	4	2	2	4	5	56
Total Deaths	128	150	86	58	92	125	70	142	19	79	78	50	128	165	110	175	83	159	40	1937

TABLE VII.—COMPARISON OF PREVALENCE OF SICKNESS AND DEATH FROM INFECTIOUS DISEASES.

(Rates calculated per 1,000 persons on the population estimated to the middle of each year.)

Year.	Smallpox.		Scarlet Fever.		Diphtheria, Membranous Croup.		Typhus Fever.		Typhoid Fever.		Puerperal Fever.		Erysipelas.	
	Cases.	Deaths.	Cases.	Deaths.	Cases	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
*1891	0·11	0·02	3·42	0·21	0·48	?	...	...	0·93	0·18	0·03	0·01	0·86	0·03
1892	0·06	...	2·94	0·14	1·10	0·21	...	...	0·54	0·08	0·08	0·05	1·18	0·07
1893	2·01	0·14	3·31	0·14	0·79	0·17	0·01	...	1·00	0·19	0·11	0·08	1·75	0·05
1894	4·22	0·35	3·64	0·15	0·83	0·18	...	...	1·04	0·21	0·09	0·04	1·57	0·03
1895	0·20	0·02	6·00	0·27	1·50	0·43	...	...	0·88	0·17	0·05	0·03	1·65	0·04
1896	0·03	0·01	6·65	0·32	2·35	0·58	...	...	0·95	0·21	0·06	0·04	1·54	0·04
1897	...	...	3·81	0·19	1·41	0·32	0·00	0·00	1·06	0·18	0·03	0·02	1·16	0·04
1898	...	...	2·60	0·09	1·36	0·26	...	...	1·25	0·22	0·05	0·03	1·25	0·03
1899	...	...	2·44	0·06	1·40	0·29	...	...	1·52	0·23	0·06	0·03	1·23	0·04
1900	0·00	...	3·98	0·18	1·05	0·15	...	...	1·64	0·35	0·08	0·05	1·31	0·05
1901	...	...	6·35	0·29	1·02	0·16	...	...	1·18	0·21	0·06	0·05	1·39	0·04
1902	0·13	0·01	9·39	0·55	1·47	0·24	...	...	1·01	0·19	0·07	0·01	1·42	0·06
1903	0·47	0·02	5·33	0·27	1·66	0·25	...	...	0·65	0·12	0·06	0·04	1·21	0·04
1904	0·01	...	3·09	0·12	1·17	0·21	...	...	0·46	0·07	0·07	0·05	1·11	0·05
1905	0·07	0·00	3·11	0·10	1·29	0·18	...	...	0·39	0·07	0·07	0·04	1·10	0·06
1906	...	...	3·32	0·10	1·50	0·17	...	...	0·35	0·07	0·05	0·03	1·08	0·04
1907	...	...	4·58	0·17	1·84	0·18	...	...	0·45	0·09	0·09	0·05	1·08	0·03
1908	...	...	4·01	0·14	1·10	0·18	...	...	0·34	0·09	0·03	0·01	0·81	0·02
1909	...	...	5·11	0·19	1·22	0·16	...	...	0·17	0·04	0·05	0·03	0·92	0·04
1910	...	...	4·76	0·15	1·04	0·11	...	...	0·13	0·04	0·05	0·04	0·95	0·03

* Prior to enlargement of City.

TABLE VIII.

Number of Cases Reported under the Infectious Disease (Notification) Act, 1889, during each Week of the Year 1910.

Week. Number.	Date of ending.	Smallpox.	Scarlet Fever	Diphtheria.	Typhus Fever	Typhoid Fever.	Simple Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Total.
	1910.											
1	January 8th	...	51	10	...	3	...	...	...	...	8	72
2	,, 15th	...	55	14	...	...	...	...	...	...	12	81
3	,, 22nd	...	55	12	...	2	...	...	1	...	14	84
4	,, 29th	...	68	9	...	2	...	...	...	...	18	97
5	February 5th	...	50	24	...	1	...	...	1	...	13	89
6	,, 12th	...	59	5	...	...	...	...	...	...	10	74
7	,, 19th	...	31	23	...	2	...	...	1	...	10	67
8	,, 26th	...	38	18	...	...	...	...		...	8	66
9	March 5th	...	50	19	...	2	...	...	...	...	14	85
10	,, 12th	...	59	10	...	...	...	...	1	...	8	78
11	,, 19th	...	48	22	...	1	...	...	...	...	9	80
12	,, 26th	...	38	11	...	...	...	...	1	...	9	59
13	April 2nd	...	40	4	...	...	...	...	...	...	11	55
14	,, 9th	...	38	7	...	2	...	...	...	...	17	64
15	,, 16th	...	41	10	...	1	...	...	...	...	11	63
16	,, 23rd	...	45	10	...	...	...	...	...	...	11	66
17	,, 30th	...	55	11	...	...	...	...	1	...	9	76
18	May 7th	...	53	13	...	3	...	...	...	...	13	82
19	,, 14th	...	53	6	...	...	...	...	1	...	11	71
20	,, 21st	...	39	5	...	...	...	...	...	...	5	49
21	,, 28th	...	41	8	...	...	...	...	...	...	13	62
22	June 4th	...	39	5	...	2	...	...	...	...	7	53
23	,, 11th	...	54	12	...	3	...	...	1	...	5	75
24	,, 18th	...	49	6	...	1	...	...	...	...	10	66
25	,, 25th	...	49	11	...	1	...	...	...	...	10	71
26	July 2nd	...	41	9	...	2	...	...	...	...	5	57
27	,, 9th	...	55	6	...	3	...	...	1	...	7	72
28	,, 16th	...	53	10	...	1	...	...	...	...	8	72
29	,, 23rd	...	49	11	...	...	...	...	...	...	16	76
30	,, 30th	...	44	15	...	...	...	...	...	...	11	70
31	August 6th	...	51	11	...	3	...	...	...	...	5	70
32	,, 13th	...	43	16	...	1	...	...	...	...	5	65
33	,, 20th	...	40	9	...	1	...	...	2	...	9	61
34	,, 27th	...	49	7	...	...	...	...	1	...	14	71
35	September 3rd	...	64	13	...	3	...	...	...	...	11	91
36	,, 10th	...	55	9	...	1	...	...	1	...	9	75
37	,, 17th	...	67	11	...	...	...	...	...	...	8	86
38	,, 24th	...	53	9	...	5	...	...	...	...	10	77
39	October 1st	...	83	8	...	1	...	...	1	...	6	99
40	,, 8th	...	74	6	...	4	...	...	...	...	11	95
41	,, 15th	...	72	12	...	2	...	...	...	...	11	97
42	,, 22nd	...	80	14	...	3	...	...	1	...	10	108
43	,, 29th	...	82	9	...	4	...	...	...	...	7	102
44	November 5th	...	56	12	...	2	...	...	3	...	14	87
45	,, 12th	...	76	14	...	2	...	...	...	...	16	108
46	,, 19th	...	71	24	...	2	...	...	1	...	12	110
47	,, 26th	...	44	13	...	...	...	...	1	...	9	67
48	December 3rd	...	44	10	...	2	...	...	1	...	16	73
49	,, 10th	...	47	9	...	2	...	...	1	...	13	72
50	,, 17th	...	41	13	...	2	...	...	3	...	14	73
51	,, 24th	...	43	18	...	...	...	...	2	...	9	72
52	,, 31st	...	34	8	...	1	...	...	...	...	10	53
	Totals	...	2709	591	...	73	...	...	29	...	542	3944

Patients admitted to the City Hospitals and Sanatoria:—Smallpox, 0; Scarlet Fever, 2,054; Diphtheria, 416; Typhoid Fever, 12. Consumption:—Salterley Grange, 80; Yardley Road, 111.

(In certain cases these patients proved not to be suffering from the disease for which they were admitted.)

TABLE IX.

Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1910.

Observed at the Birmingham and Midland Institute Observatory, Edgbaston, by Mr. Alfred Cresswell.

Month.	Temperature of the Air.						Temperature of the Ground.		Hours of Sunshine.		Rainfall in Inches.		Days on which 0·01 inch or more of rain fell.	Miles of Wind	
	Highest in the shade.		Lowest in the shade.		Mean for the Month.		Maximum at 1 foot deep.	Maximum at 4 feet deep.							
	1910.	Above or below the previous highest.	1910.	Above or below the previous lowest.	1910.	Above or below the average.*			1910.	Above or below the average.*	1910.	Above or below the average.*		1910.	Above or below the average.
Jan....	53·1	− 4·9	19·0	+ 8·2	37·8	+ 0·2	44·0	44·9	57	+ 23	2·22	+ 0·41	17	10667	+ 541
Feb....	53·5	− 8·4	29·8	+ 21·8	40·5	+ 2·4	42·7	43·0	74	+ 24	2·92	+ 1·42	23	11319	+ 1908
Mar.	58·3	− 8·3	30·9	+ 11·9	43·1	+ 2·3	43·0	43·4	123	+ 37	0·69	− 1·16	10	9345	− 1024
Apr.	61·6	− 17·4	30·9	+ 4·0	45·1	− 0·2	48·4	45·0	90	− 24	2·22	+ 0·69	20	9977	+ 670
May...	73·6	− 5·0	32·8	+ 1·8	52·1	+ 0·9	53·0	48·0	140	+ 1	1·66	− 0·46	18	10446	+ 1367
June	79·1	− 3·7	44·6	+ 7·0	58·8	+ 1·6	59·0	51·5	129	− 17	1·47	− 0·69	14	8255	− 17
July	73·9	− 14·1	45·8	+ 6·3	57·6	− 2·4	56·0	52·0	111	− 34	2·41	+ 0·25	16	9908	+ 1672
Aug.	73·5	− 15·7	47·5	+ 6·3	59·0	− 0·2	58·0	53·3	100	− 42	4·89	+ 2·10	17	9665	+ 1102
Sept.	69·7	− 20·9	38·9	+ 5·9	55·2	− 0·4	55·6	53·1	79	− 32	0·93	− 0·83	8	6958	− 1018
Oct....	68·4	− 8·1	39·0	+ 11·1	50·7	+ 2·3	55·1	52·6	48	− 22	2·21	− 0·62	15	9787	+ 785
Nov.	54·0	− 7·6	26·4	+ 6·4	37·9	− 5·1	47·1	50·6	40	+ 5	3·97	+ 1·86	18	9938	+ 790
Dec.	52·7	− 3·3	27·5	+ 13·1	42·8	+ 3·9	45·0	45·9	19	− 8	5·51	+ 3·10	25	12333	+ 2211

* In the twenty-three years 1887-1909.

TABLE X.

Temperature and Rainfall in each Month and Year from 1900 to 1910.

MEAN TEMPERATURE.

(From Maximum and Minimum Readings.)

MONTH	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Average for 23 years 1887-1909	1910
	°	°	°	°	°	°	°	°	°	°	°	°
JAN.	39·2	37·4	40·2	39·1	38·8	37·9	40·6	38·1	36·0	38·0	37·6	37·8
FEB.	36·2	35·4	34·1	43·9	37·1	40·7	37·1	37·0	41·4	36·8	38·1	40·5
MAR.	37·8	38·6	44·6	44·0	39·7	43·9	40·8	44·1	39·0	37·6	40·8	43·1
APR.	47·2	47·4	45·4	43·3	47·7	44·4	45·2	45·4	40·9	48·4	45·3	45·1
MAY	50·0	52·7	47·8	51·6	51·6	51·0	50·6	50·9	54·9	52·0	51·2	52·1
JUNE	57·9	56·7	56·5	54·8	56·0	58·7	57·6	54·1	57·3	53·2	57·2	58·8
JULY	64·1	64·5	58·3	59·5	63·3	63·3	61·4	57·3	60·7	58·5	60·0	57·6
AUG.	59·6	60·5	57·5	57·2	59·1	57·9	63·4	57·8	58·3	60·6	59·2	59·0
SEPT.	57·0	57·0	55·4	55·4	53·9	54·0	57·9	57·3	54·6	53·6	55·6	55·2
OCT.	49·1	49·3	49·2	50·4	49·7	44·7	50·9	49·5	53·2	50·3	48·4	50·7
NOV.	44·6	40·5	43·9	43·4	41·6	40·6	44·8	43·9	45·4	40·8	43·0	37·9
DEC.	44·0	37·5	39·5	37·5	38·4	40·0	37·5	39·5	38·7	38·9	38·9	42·8
YEAR	48·9	48·1	47·7	48·3	48·0	48·1	49·0	47·9	48·3	47·4	47·9	48·4

TOTAL RAINFALL.

MONTH	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Average for 23 years 1887-1909	1910
JAN.	3·53	1·37	1·02	1·97	2·92	0·95	3·85	0·90	0·81	0·96	1·81	2·22
FEB.	4·28	1·34	1·60	1·41	3·80	0·68	2·04	1·09	1·21	0·68	1·50	2·92
MAR.	0·70	1·76	1·59	4·63	1·54	3·52	1·13	1·01	3·05	2·95	1·85	0·69
APR.	0·92	1·95	2·49	1·64	1·12	2·30	1·32	1·93	2·34	1·84	1·53	2·22
MAY	2·09	1·11	2·95	2·67	2·25	0·28	2·78	3·93	3·01	1·68	2·12	1·66
JUNE	2·41	1·84	2·40	1·66	0·46	2·00	2·86	2·57	3·22	3·42	2·16	1·47
JULY	1·74	3·13	1·59	2·14	2·50	1·91	0·89	2·90	2·22	3·22	2·16	2·41
AUG.	2·89	2·13	4·43	5·16	1·85	4·40	0·89	2·28	2·39	1·86	2·79	4·89
SEPT.	0·80	0·65	1·49	2·55	1·40	1·01	1·18	0·90	2·33	2·55	1·76	0·93
OCT.	3·08	1·84	2·33	6·55	0·88	1·34	4·86	5·80	2·01	3·45	2·83	2·21
NOV.	2·40	1·23	2·23	1·65	1·37	3·04	2·58	2·07	1·84	0·79	2·11	3·97
DEC.	4·25	4·29	1·86	1·80	1·81	0·83	2·14	3·43	2·06	4·30	2·41	5·51
YEAR	29·09	22·64	25·98	33·83	21·94	22·30	26·56	28·86	26·51	27·73	25·08	31·14

TABLE XII.—ANALYSIS OF CORPORATION WATER SUPPLY BY THE CITY ANALYST.

Date of Receipt of Sample.	PLACE WHERE TAKEN.	Parts per 100,000.								Appearance in 2ft. Tube.			
		Total Solid Matter.	Free Ammonia.	Albuminoid or Organic Ammonia.	Nitrogen in Nitrates.	Oxygen Consumed in 3 hours at 27° C. (80° F.)	Chlorine in Chlorides.	Hardness (as $CaCO_3$).	Alkalinity (as $CaCO_3$.)	Turbidity.*	Red.†	Yellow.†	Blue †
1910.													
Jan. 17th	33 Portland Road	6·8	·001	·007	0	·20	0·9	3·0	2·9	0	0·8	3·6	0·2
,, 17th	128 Vyse Street	7·4	·001	·005	0	·20	0·9	3·2	2·9	0	0·8	3·6	0·2
,, 17th	5 Erskine Street	7·2	·001	·005	0	·19	0·9	3·0	2·9	0	0·6	3·4	0·2
Feb. 7th	132 Park Road, Harborne	6·8	·001	·005	0	·16	0·9	2·9	2·8	0	0·6	3·2	0·2
,, 7th	179 Ombersley Road ..	6·4	·001	·004	0	·17	0·9	3·1	2·9	0	0·6	3·2	0·2
,, 7th	162 Havelock Road ...	7·0	·001	·005	0	·18	0·9	2·9	2·9	0	0·8	3·6	0·4
Mar. 11th	86 Metchley Lane	6·8	·001	·004	0	·14	1·0	3·3	2·9	0	0·4	2·4	0·2
.. 11th	13 Cyril Road	6·8	·001	·003	0	·15	0·9	3·3	3·0	0	0·4	2·4	0·2
,, 11th	97 George Arthur Road ...	6·6	·001	·001	0	·16	0·9	3·1	3·0	0	1·0	3·2	0·6
Apl. 15th	19 Duchess Road	6·6	·000	004	0	·11	0·9	2·9	2·7	0	0·0	2·2	0·0
,, 15th	66 Anderton Road	6·6	·001	·001	0	·11	0·9	2·9	2·6	0	0·0	2·2	0·0
,, 15th	3 Fowler Street	6·6	·000	001	0	·12	0·9	3·0	2·6	0	0·0	2·2	0·0
May 18th	140 Court Oak Road ...	6·4	·000	·003	0	·12	1·0	2·7	2·6	0	0·0	1·8	0·0
,, 18th	33 Dearman Road	6·4	·000	·003	0	·11	1·0	2·7	2·6	0	0·0	1·6	0·0
,, 18th	57 Wright Road	6·4	·001	·004	0	·12	1·0	2·6	2·6	0	0·2	1·8	0·0
June 10th	48 Cavendish Road ...	6·0	·001	·002	0	·11	1·0	2·6	2·6	0	0·0	1·4	0·0
,, 10th	212 Charles Road	6·4	·000	·003	0	·11	0·9	2·6	2·7	0	0·0	1·4	0·0
,, 10th	173 Sladefield Road ...	6·0	·001	·002	0	·11	1·0	2·6	2·6	½	0·4	1·8	0·2

July 12th	75 Great Tindal Street ...	...	6·2	·001	·004	0	·16	1·0	2·5	2·6	0	0·2	2·2	0·0
,, 12th	35 Summer Road ...	...	6·6	·000	·004	0	·15	1·0	2·6	2·4	0	0·2	2·2	0·0
,, 12th	30 Great Brook Street	...	6·4	·000	·004	0	·15	1·0	2·6	2·5	0	0·2	2·2	0·0
Aug. 16th	17 Farquhar Road...	...	6·0	·001	·006	0	·18	1·0	2·7	2·5	0	1·0	3·4	0·8
,, 16th	168 Somerville Road	...	6·0	·001	·005	0	·20	0·9	2·9	2·5	0	1·2	3·4	1·0
,, 16th	95 Cotterill's Lane ...	...	5·8	·001	·007	0	·18	0·9	2·9	2·5	0	1·2	3·4	1·0
Sept. 16th	119 Greenfield Road	...	6·4	·000	·005	0	·20	0·9	3·1	2·7	0	0·8	3·6	0·0
,, 16th	7 Pakenham Road ...	...	6·6	·001	·005	0	·20	0·9	3·1	2·7	0	0·8	3·6	0·0
,, 16th	10 Austin Street ...	...	6·4	·001	·006	0	·21	0·9	3·2	2·7	0	0·8	3·6	0·0
Oct. 14th	19 York Road ...	...	6·4	·001	·007	0	·23	0·9	2·6	2·3	0	1·2	6·0	0·2
,, 14th	15A Grantham Road	...	5·8	·001	·005	0	·24	0·9	2·6	2·3	0	1·2	6·0	0·0
,, 14th	17 Foley Road ...	...	6·0	·000	·005	0	·22	0·9	2·9	2·3	½	1·2	6·0	0·2
Nov. 15th	6 Vicarage Road ...	..	5·8	·000	·007	0	·24	0·9	2·7	2·3	0	1·2	5·6	0·0
,, 15th	61 Wordsworth Road	...	6·0	·000	·005	0	·24	0·8	2·8	2·3	0	1·2	5·6	0·0
,, 15th	14 Hutton Road ...	...	5·8	·000	·007	0	·24	0·8	2·8	2·3	½	1·4	6·2	0·4
Dec. 13th	9 St. Mary's Road ...	...	6·4	·000	·006	0	·20	0·9	3·5	2·7	½	0·8	4·6	0·2
,, 13th	53 Whitmore Road...	...	6·6	·001	·00	0	·21	0·9	3·5	2·7	0	1·0	4·6	0·2
,, 13th	4 Teall Road ...	...	6·6	·001	·007	0	·22	0·9	3·4	2·7	0	1·0	4·8	0·2
Average Results, 1910		...	6·4	·001	·005	0	·17	0·9	2·9	2·6	0·0	0·6	3·4	0·2
,, ,, 1909		...	6·9	·000	·006	0	·18	0·9	3·0	2·9	0·0	0·5	3·1	0·1
,, ,, 1908		...	6·3	·006	·005	0	·18	0·9	2·8	2·7	0·0	0·6	3·0	0·1
,, ,, 1907		..	7·1	·001	·005	0	·20	1·0	3·5	3·1	0·0	0·7	3·9	0·1
,, ,, 1906		...	6·1	·000	·006	0	·18	1·0	2·8	2·3	0·2	0·8	3·9	0·0

[1] "0" indicates "clear," "1" indicates "very slightly turbid."
[2] The colour is expressed in tintometer units. Red with an equal amount of yellow forms *orange*, yellow with an equal amount of blue forms *green*, and equal amounts of the three colours indicate *grey*.

TABLE XIII.

RETURN FOR THE PERIOD 1ST JULY, 1909, TO 30TH JUNE, 1910, RESPECTING THE VACCINATION OF CHILDREN WHOSE BIRTHS WERE REGISTERED IN THE CITY DURING THE SAID PERIOD.

	Number of Births returned in the "Birth List Sheets" as Registered.	Number of these Births duly entered in Columns I., II., IV., and V. of the "Vaccination Register" (Birth List Sheets), viz.:					Number of these Births which remained unentered in the "Vaccination Register" on account (as shown by Report Book) of			Number of these Births remaining neither duly entered in the "Vaccination Register" (cols. 3, 4, 5, 6 and 7 of this Return) nor temporarily accounted for in the "Report Book" (cols. 8, 9, and 10 of this Return).
		Col. I.	Col. II.		Col. IV.	Col. V.				
		"Successfully Vaccinated."	"Insusceptible of Vaccination"	"Had Smallpox."	"Number in respect of whom Certificates of conscientious objection have been received."	"Dead, Unvaccinated."	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officer of which has been duly apprised.	Removal to places unknown or which cannot be reached; and cases not having been found.	
1	2	3	4	5	6	7	8	9	10	11
Birmingham Parish ...	6,937	5,362	16	—	161	750	42	81	516	9
Aston Union (within the City)	6,391	4,623	25	—	285	596	99	70	574	119
King's Norton Union (within the City) ...	1,575	1,277	5	—	123	90	20	16	42	2
Total	14,903	11,262	46	—	569	1,436	161	167	1,132	130

INDEX.

CITY OF BIRMINGHAM.

HEALTH DEPARTMENT.

REPORT

ON

INFANT MORTALITY

IN

ST. GEORGE'S & ST. STEPHEN'S WARDS.

BIRMINGHAM:
PERCIVAL JONES LIMITED, PRINTERS, 148-9, GREAT CHARLES STREET

Health Department,
The Council House,
Birmingham,
February, 1911.

To John Robertson, Esq., M.D., B.Sc.,
Medical Officer of Health,
Birmingham.

Sir,

INFANT MORTALITY IN ST. GEORGE'S AND ST. STEPHEN'S WARDS.

The work in these wards has been carried on during 1910 on much the same lines as in the two previous years.

The children born in the district are visited as soon after birth as convenient, usually about the end of the first week. At this visit directions are given as to the care of the child, and information is obtained regarding the mother's employment, previous history, husband's wages, etc.

Visits are then paid by the Health Visitors (one visitor for each ward) every week for the first five weeks and every month afterwards. If at any of these visits the baby is found to be unsatisfactory in any way it is reported to me, so that I may visit, and, if necessary, take over the case altogether. The unhealthy and ailing children are subsequently visited by me very frequently, according to the condition of the child.

There is never the slightest difficulty experienced in visiting at these homes. The visits are expected, and in some of the better class houses where they have not been thought necessary the mothers have expressed their disappointment that they had not been visited.

I am convinced that the greatest amount of good will result from the work done at the "Infant consultations." The mothers are then in a better condition to receive information than when they are in their own homes.

It speaks well for these women that the numbers attending this year have been so satisfactory. Not only have the careful mothers come to the "Consultations," but many careless and drunken women, and the mothers of illegitimate children have been in regular attendance. The effect on the physique of the children has been marked.

These "infant consultations" are held twice weekly in the district in rooms rented for the purpose.

During the year there were 3,016 attendances, compared with 2,600 in 1909.

Altogether 593 women have brought their children :

16	attended	20 times and over.
56	,,	10 to 20 times.
136	,,	5 to 10 times.
270	,,	2 to 5 times.
85	,,	once only.
22	,,	once only ; when the child was 12 months old.
8	,,	new cases brought for the first time during the last week of the year.

Of the 85 who attended only once, a large number had left the district after the first visit, and could not be traced.

Some also resumed factory work, and had no opportunity of bringing the child again.

The mothers are asked to attend the "consultation" till the child reaches the age of twelve months. It is gratifying to note that a large number of women of their own accord have brought the children during their second year when there has been any difficulty about the feeding, etc.

Women from districts where no consultations are held have also brought their children for inspection and weighing.

The following is an account of the work done amongst the children born in 1910, compared with those born in 1908 and 1909. The figures given here were made up immediately after the close of the year to which they apply, and in certain instances had to be modified a little when the results of the year's work were finally tabulated :—

	1910.	1909.	1908.	Total.
Total number of children born ...	1,638	1,500	1,538	4,676
Number notified under the "Notification of Births Act"	1,599	1,398*	1,342	4,339
Legitimate births	1,575	1,373	1,317	4,265
Illegitimate births	24	25	25	74
Number of confinements attended by a doctor only	323	288	288	899
Number of confinements attended by a doctor and midwife... ...	39	37	20	96
Number of confinements attended by a midwife only	1,207	992	994	3,193
Number of confinements in Institutions	69	66	40	175

* Including 15 in which the address was wrong.

CASES EXCLUDED FROM SUBSEQUENT VISITING.

	1910.	1909.	1908.	Total.
Still births	44	44	39	127
Dead at first visit	47	45	53	145
Died during the 1st month	12	8	10	30
Better-class houses	33	37	36	106

DEATHS OF CHILDREN WHO WERE BORN AND DIED DURING THE YEAR.

	1910.	1909.	1908.	Total.
Number of these deaths under 1 week ...	39	44	35	118
" " between 1 and 4 weeks	23	36	21	80
" " " 1 " 2 months	15	21	30	66
" " " 2 " 3 "	9	24	26	59
" " " 3 " 6 "	30	37	36	103
" " " 6 " 9 "	13	10	22	45
" " " 9 " 12 "	5	—	3	8
Total	134	172	173	479

NUMBER OF DEATHS FROM THE FOLLOWING CAUSES :—

	1910.	1909.	1908.	Total.
Prematurity and congenital defects ..	60	78	51	189
Epidemic enteritis	19	24	49	92
Marasmus	11	35	24	70
Bronchitis and broncho-pneumonia ...	22	16	12	50
Overlaying	13	7	11	31
Convulsions	4	6	10	20
Meningitis	0	1	4	5
Whooping cough	2	4	4	10
Other causes	3	1	8	12

EMPLOYMENT OF MOTHERS :—

At work before confinement	796	729	735	2260
Not at work	842	771	803	2416
Premature births among former ...	36	48	33	117
" " " latter ...	30	32	32	94

CHILDREN BORN IN 1909 AND KEPT UNDER OBSERVATION.

It will now be well to examine in detail the statistics obtained in regard to children born during the year 1909, and who at the end of 1910 had all been kept under observation either for a whole year or until the time of their death.

The total number of children born alive in St. George's and St. Stephen's Wards in the year 1909 was 1,514, while 43 still births were recorded. Of these 1,514 children, 33 were excluded from visiting, because the families they belonged to were in distinctly better circumstances than the others. As many as 183 of the remaining infants were lost sight of during the year, and could not be traced, while 13 others were never found.

This leaves 1,285 infants who were kept under observation, and of these, 224 died, giving an infant mortality rate of 174 per 1,000 births. This is a much better figure than in 1908, when the rate was 198 per 1,000.

Taking the whole of the births registered in St. George's and St. Stephen's Wards, and the deaths registered under one year of age, the infant mortality rates for the past seven years are as follows:—

	1904.	1905.	1906.	1907.	1908.	1909.	1910.
St. George's ...	213	151	161	150	169	166	140
St. Stephen's ...	232	177	222	199	214	211	163

Enquiry has again been made, as in 1908, into the effect of the industrial employment on the part of the mother upon the health of the infant. It appears that of the 1,285 mothers, 728 were industrially employed before or after confinement either in a factory or elsewhere, while 557 were not so employed. The mortality among their infants is shown in the table below, together with the corresponding rates for 1908:—

	Births.	Deaths.	Infant Mortality per 1,000 1909.	Infant Mortality per 1,000 1908.
Mother employed in factory ...	483	94	194	186
Employed at home or elsewhere ...	245	36	147	200
Total employed	728	130	179	190
Not employed	557	94	169	207
Grand total	1,285	224	174	198

It will be seen that the mortality was highest among the children whose mothers worked at a factory, and lowest amongst those whose mothers worked at home or at charing, washing, etc. Taking all the employed mothers, the mortality rate among their infants was 179 per 1,000, or 10 per 1,000 above that of the infants whose mothers were not industrially employed. From this year's figures therefore it would seem that the industrial employment of the mother in a factory has a prejudicial effect on the chances of life of the infant.

In order to carry the enquiry into the causes of infant mortality a step further, an attempt was made during 1909 to ascertain the actual state of health at the age of twelve months of every baby who was kept under observation during its first year of life. The babies were all carefully examined and classified as in good, fair, or poor health. The next table shows the percentage found to be in good health among those whose mothers were industrially employed and those whose mothers were not.

HEALTH OF SURVIVING INFANTS AT THE AGE OF TWELVE MONTHS.

	In good health.	In fair health.	In poor health
Mother employed in factory ...	58%	28%	14%
Employed at home or elsewhere	55%	30%	15%
Total employed	57%	28%	15%
Not employed	63%	24%	13%
Grand total	59%	27%	14%

The mothers who were not industrially employed had a somewhat larger percentage of their children in good health, viz., 63 per cent. against 57 per cent. This may very probably be due to the fact that they were for the most part able to feed their infants at the breast.

Of the 1,285 mothers embraced in the enquiry, 689 were industrially employed during pregnancy, and 596 were not so employed. These and the corresponding figures for 1908 are shown in the table below :—

	1908.	1909.	Total.
Employed during pregnancy ...	611 or 50·4%	689 or 53·6%	1,300 or 52·0%
Not employed during pregnancy	601 or 49·6%	596 or 46·4%	1,197 or 48·0%

Of the same 1,285 mothers, 415 followed some industrial occupation after their confinement and during the life of the baby. This is equal to 32·3 per cent. of the total number of mothers.

The following list of occupations is of interest, as showing the nature of the work done by the 728 women who were industrially employed before or after confinement :—

OCCUPATION OF MOTHERS.

Press Work	142	Scratch-brushing	10
Charing...	120	Paper-box Making	10
Brass Polishing	47	Foot Stamping...	9
Small Shop	41	Laundry	9
Hook and Eye Carding ...	30	Japanning	9
Silver and Gold Polishing ...	30	Warehouse Work	9
Lathe Work	26	Bicycle Polishing	8
Electro-plate Polishing ...	22	Power Press	8
Machine Work...	20	Hawking	7
Pen Grinding	19	Hand Burnishing	5
Machinist	16	Capstan Lathe...	5
Lead Work	13	Brass Lacquering	4
Soldering	12	Core Making	3
French Polishing	11	Miscellaneons	83

The 1,285 mothers had had 4,239 children born alive prior to the year 1909. Certain particulars regarding their previous confinements are given below :—

	Employed before or after recent confinement.			Not employed.	Total.
	In Factory.	At Home or elsewhere.	Total employed.		
Total number of mothers ...	483	245	728	557	1,285
Children born alive per 100 mothers	215	463	298	371	330
Children now living per 100 mothers	131	306	190	258	220
Died in 1st year per 1,000 born	294	245	268	219	244
No previous confinement per 100 mothers	30	8	23	10	17
Miscarriages and still-births per 100 mothers	25	59	37	41	38

It will be seen that on the whole the women who followed some occupation had much smaller families than those who did not. This, however, does not apply to the women who worked at home or at charing, washing, etc., for these had the largest families of all those shown in the table, the number of children being more than twice as large as in the case of the women who worked in factories. It would seem, therefore, that as a woman's family increases she is unable to work at a factory, but if necessary, undertakes some industrial work which she can do at home.

Perhaps the most important figure in the above table is the infantile mortality rate among the babies previously born to the women who had a baby in 1909. The figures may be set out as follows :—

INFANTILE MORTALITY RATE PER 1,000.

	Babies born in 1909.	Babies born previously.
Mother employed in factory ...	194	294
Employed at home or elsewhere ...	147	245
Total employed industrially ...	179	268
Not employed industrially ...	169	219
Grand total...	174	244

The figures in the second column apply to no less than 4,239 babies, and among this large number the mortality where the mother worked in a factory was greatly in excess of the figure where the mother worked at home, or was not industrially employed. This confirms in general the experience of 1909, which of course is based on a smaller number of cases.

It seems possible that the age of the mother may have some connection with the child's chances of living, and to throw some light on this point the following table has been constructed :—

MORTALITY OF CHILDREN ACCORDING TO MOTHER'S AGE.

	Under 25 years.			25 and under 35.			35 and over.		
	Births.	Deaths.	Rate.	Births.	eaths.	Rate	Births.	Deaths.	Rate.
Industrially employed	222	39	176	360	67	186	146	24	164
Not employed	100	24	240	303	49	162	154	21	136
Total ...	322	63	196	663	116	175	300	45	150

These figures are only small, and therefore liable to error, but so far as they go they indicate that the children born of older mothers have the best chance of living, possibly because a smaller proportion of these mothers go out to work. In the year under review 69 per cent. of the mothers under 25 years old were industrially employed, against 54 per cent. of those aged 25 to 35 years, and 49 per cent. of those aged 35 or more.

In the report for 1908 it was pointed out that in a district like the one under observation poverty has a very marked influence on the infant mortality. To throw further light on this question the mortality during 1909 has been calculated for infants whose fathers were stated to be earning less than £1 per week and among those whose fathers earned more:—

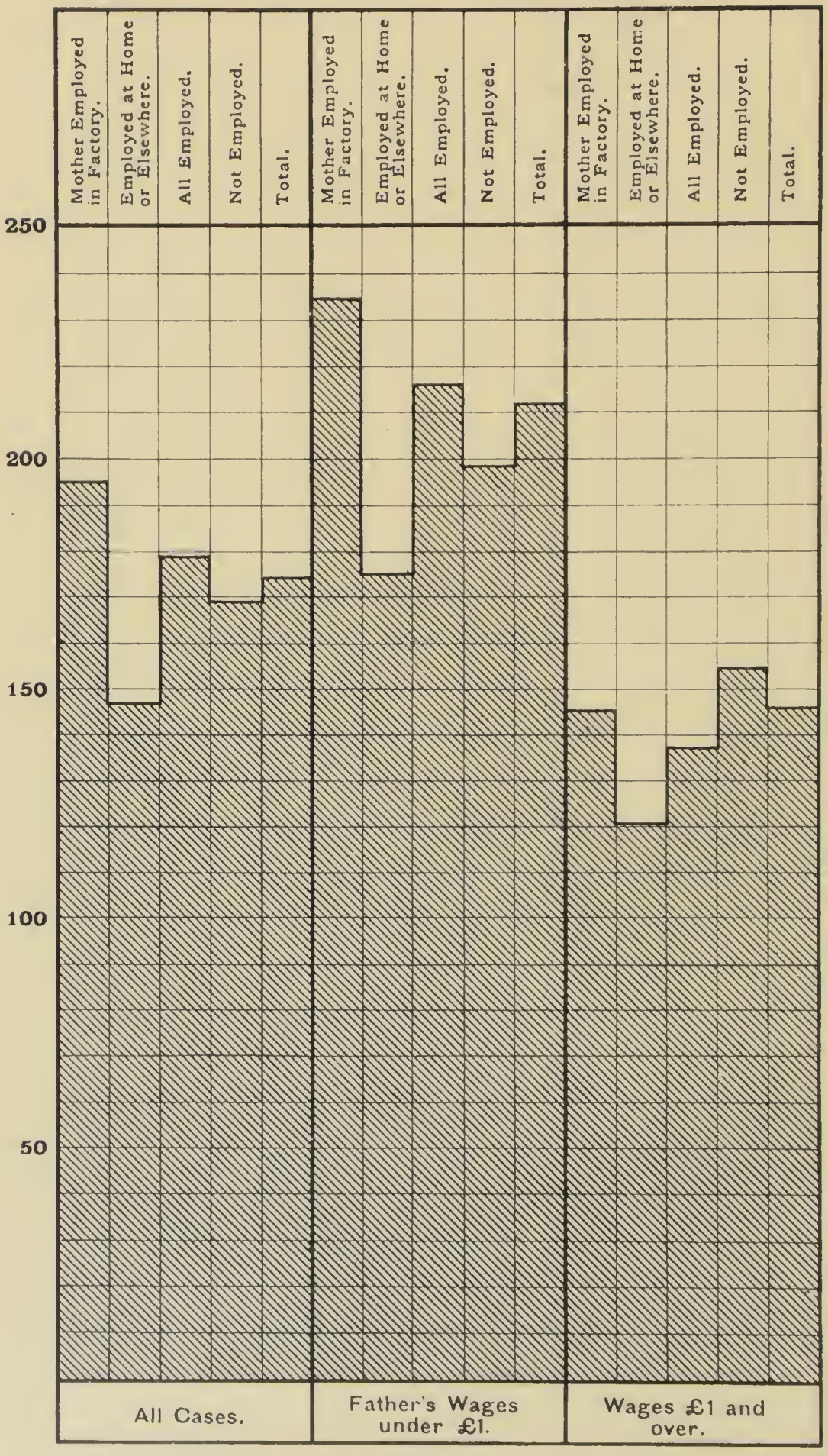
INFANTILE MORTALITY AND WAGES OF FATHER.

Infantile Mortality.	Father out of work or earning less than £1 per week.	Father earning £1 per week or over.
Mother employed in Factory ...	235	146
Employed at home or elsewhere	176	120
Total employed	217	137
Not employed	199	154
Total	211	146

No further enquiry was made than that from the mother as to the husband's earnings. Under most conditions the information obtained in this way would be

CHART No. 1.

INFANT MORTALITY RATE PER 1,000.



open to considerable error. When, however, it is obtained at houses which are visited almost every week it is probable that the information given is fairly accurate.

From the above tables it is seen that the influence of poverty (even only dividing the wages into below and above £1 per week) on the infantile mortality rate is far greater than that of industrial employment. Employment of the mother apparently had the effect of causing a difference of 10 per 1,000 in the infant mortality, whereas the father's earnings being under or over £1 per week resulted in a difference of 65 per 1,000. Poverty appears to act upon the child both before and after its birth. The children may seem to be healthy at birth, but they have a very insecure hold upon life, and are unable to live in the poverty-stricken homes into which they are born.

In utero they are affected by the condition of the mother, but after birth they are affected by the condition of the mother plus the condition of the home.

In the chart on the opposite page the infant mortality rate is shown in relation to industrial employment, and also in relation to the father's wages. From the chart and the figures it would appear that if the standard of comfort in the district under notice could be raised to that represented by a regular income of £1 per week only, the infant mortality would at once be greatly reduced.

The next table shows the influence of poverty on the health of the children who survived at the end of one year :—

HEALTH OF THE SURVIVORS AND WAGES OF FATHERS.

	Father out of work or earning less than £1 per week.			Father earning £1 per week or more.		
	Health Good.	Health Fair.	Health Unsatisfactory.	Health Good.	Health Fair.	Health Unsatisfactory.
	%		%	%	%	%
Mother employed in Factory	55	28	17	62	28	10
Employed at home or elsewhere	49	31	20	60	30	10
Total employed	53	29	18	61	29	10
Not employed	51	34	15	68	20	12
Total	53	30	17	65	24	11

Besides influencing the mortality, poverty has a marked effect on the health of the children who survived the first year, the percentage in good health being 53 in the poorer families against 65 in the others.

In the very poor homes the percentage of children in good health was slightly higher amongst the children of the employed mothers than those who were not employed; but in the better homes, when the woman remained at home, the health of the children was better than when she went out to work.

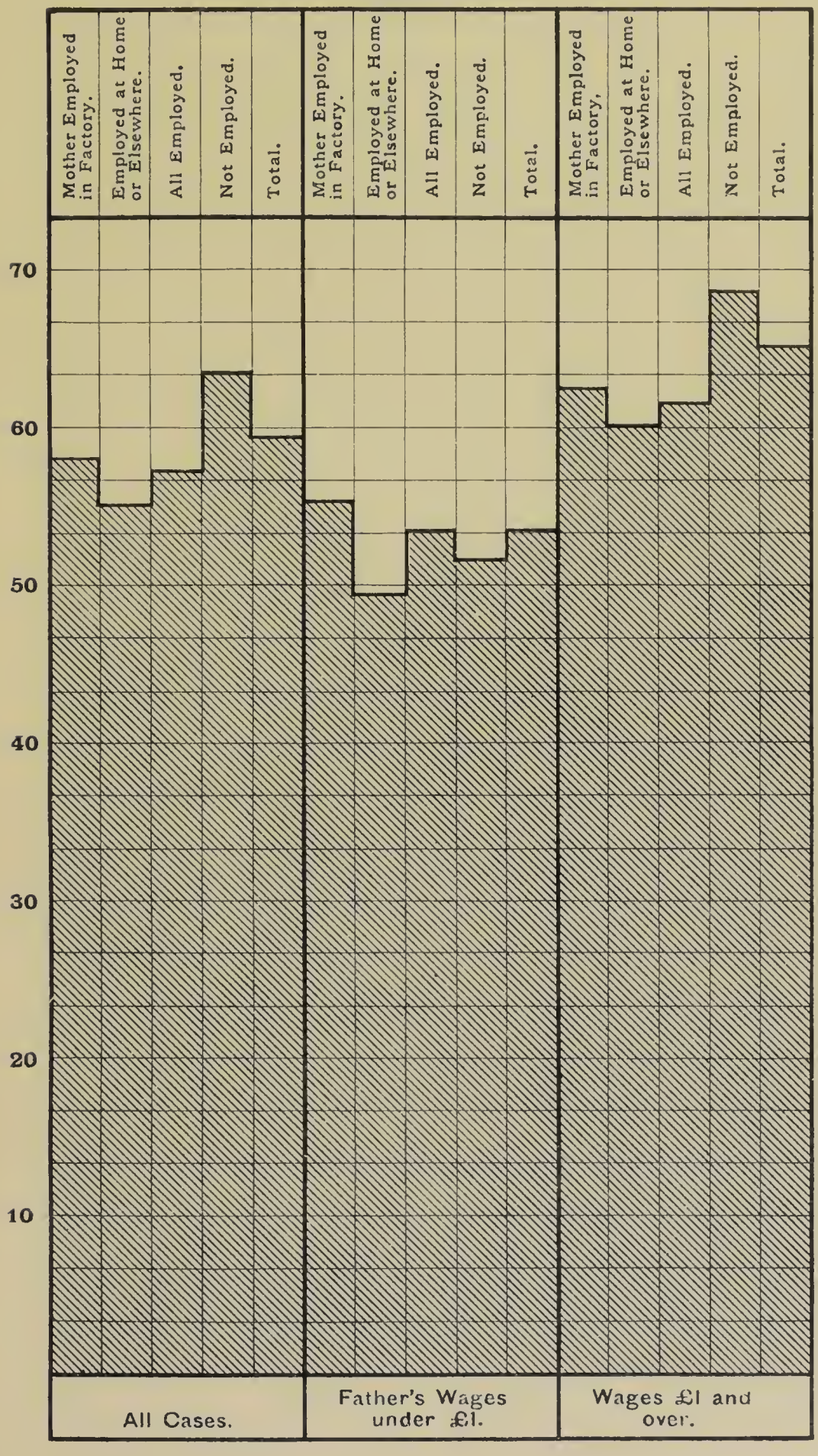
The greatest difference, however, is again seen when poverty is taken into account, 12 per cent. more of the children being in good health when the father's wages were £1 per week or over.

Chart No. 2 shows the relative influence of industrial employment and of poverty on the health of the child.

For the purposes of the next two tables the children have been divided into those living in houses let at less than 5s. per week and those in better class houses :—

CHART No. 2.

PERCENTAGE OF SURVIVING CHILDREN IN GOOD HEALTH.



INFANTILE MORTALITY AND RENTAL OF HOUSES.

Mortality Rate per 1,000.

	Rent under 5/-	Rent 5/- and over.
Total employed	180	169
Not employed	180	135
Total	180	150

Health of Children who were alive at the end of 12 months.

	Rent under 5/-			Rent 5/- and over.		
	Good.	Fair.	Unsatisfactory.	Good.	Fair.	Unsatisfactory.
	%	%	%	%	%	%
Total employed	56	29	15	60	26	14
Not employed ..	58	27	15	76	17	7
Total	57	28	15	69	21	10

If rental of the house be taken as an index of poverty, the employed mothers are considerably poorer than those not employed.

The infantile mortality in the houses under 5s. per week is much greater than in those of 5s. per week and upwards. Similarly the percentage of infants in good health in the houses under 5s. is much less than in the better houses.

Eighty-four per cent. of the mothers who were industrially employed lived in houses at less than 5s. per week, against 75 per cent. of those who were not so employed.

The fact that the employed mothers are poorer than those who are not employed (as indicated by the rental of the house) may account for the difference of 10 per 1,000 in the mortality rate between the children of employed and unemployed mothers.

It is generally accepted that the method of feeding has a marked effect on the health of the child, and this is quite borne out by the following statistics :—

METHOD OF FEEDING TILL SIX MONTHS OLD, AND HEALTH OF CHILD AT TWELVE MONTHS OLD.

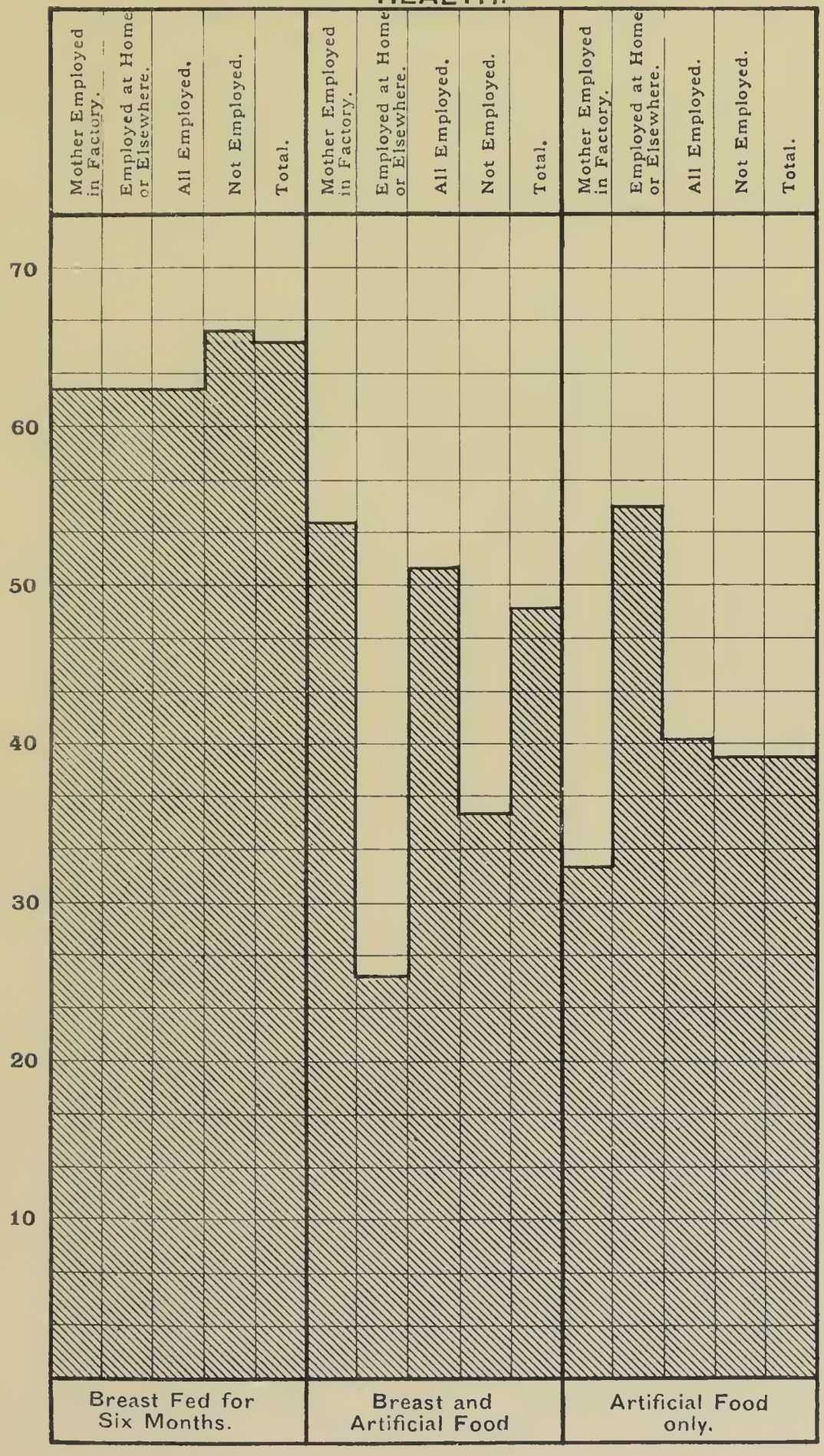
	Breast only.				Breast partly.				Artificial only.			
	Health of baby.				Health of baby.				Health of baby.			
	Good	Fair	Poor	Died	Good	Fair	Poor	Died	Good	Fair	Poor	Died
	%	%	%	%	%	%	%	%	%	%	%	%
In factory after confinement	62	25	11	2	54	27	15	4	32	27	24	17
At home or elsewhere	62	28	10	—	25	42	25	8	55	19	21	5
Total employed after confinement	62	27	10	1	51	29	16	4	40	24	23	13
Not employed	66	24	8	2	36	31	24	9	39	26	24	11
Total ...	65	24	9	2	48	29	18	5	39	25	24	12

The breast-fed babies had much better health and a much lower mortality whether the mother was employed or not. It was shown in a previous table that employment caused only 6 per cent. difference in the number in good health, while feeding is shown in the above table to have caused a difference of 26 per cent. between the breast-fed and artificially-fed children. It is also to be noted that the subsequent mortality amongst the children who were artificially-fed for the first six months was about six times as great as among those who were breast-fed. Only 2 per cent. of the children who had been fed at the breast died between the age of six months and one year, whereas 12 per cent. of those who had been artificially fed died.

In chart No. 3 the health of the breast-fed children is contrasted with that of the children who were partly or entirely fed on artificial food.

CHART No. 3.

PERCENTAGE OF SURVIVING CHILDREN IN GOOD HEALTH.



An enquiry into the manner in which the babies were fed during each of the first six months of their life gives some very interesting figures :—

HOW THE BABIES WERE FED.

	Babies who lived one year.				Babies who died.	
	Mother industrially employed after confinement.					
	In Factory.	At home or elsewhere.	Total employed.	Not employed.	Total employed.	Not employ
Breast only—	%	%	%	%	%	%
1st month ...	94	86	91	91	79	77
2nd " ...	55	76	63	85	26	52
3rd " ...	43	72	54	83	11	42
4th " ...	33	68	46	78	7	44
5th " ...	27	68	42	77	9	34
6th " ...	23	65	38	76	5	34
Breast partly—						
1st month ...	1	1	1	1	4	3
2nd " .	33	8	23	4	46	10
3rd "	40	9	28	4	40	12
4th " ...	48	8	34	6	28	12
5th " ..	50	8	35	6	30	12
6th " ...	53	8	37	6	30	14
Artificial—						
1st month ...	5	13	8	8	17	20
2nd " ...	12	16	14	11	28	38
3rd " ...	17	19	18	13	49	46
4th " ...	19	24	20	16	65	44
5th " ...	23	24	23	17	61	54
6th " ...	24	27	25	18	65	52

Where the mother worked in a factory the percentage of breast-feeding decreased greatly month by month. This was not nearly so marked in the case of the women who were employed at home. The percentage of mothers who breast-fed their children was considerably higher (38 per cent. *cf.* 27 per cent.) amongst working mothers than last year, and slightly higher (76 per cent. *cf.* 75 per cent.) amongst non-working mothers. It is to be noted that a very large percentage of the women who were employed in factories partly fed their babies at the breast, which shows that breast-feeding was supplemented because the mother was absent from home, not because the breast milk was insufficient.

The figures show beyond all doubt that factory employment means in most cases the giving up of breast-feeding. It has already been shown that breast-feeding among women of this class is essential to the health, and even the life, of the infant, and it is probable that the bad effect of factory employment is exercised in this way. Among factory workers the rapid decrease from 94 per cent. in the first month of life to 23 per cent. in the sixth month in the amount of breast-feeding is most significant.

As many as possible of the babies were weighed at the age of twelve months, and it was found that those who had been classed as good weighed on an average 19¾lbs., those classed as fair weighed 16¾lbs., and those classed as unsatisfactory weighed 14¼lbs. It is evident from these figures that the children had been accurately classified. The total number weighed was 813, against 816 in 1908.

If the children are divided into those whose mothers were industrially employed and those whose mothers were not, there is scarcely any difference in the average weight in the two classes. Industrial employment therefore has little influence on the health of the children who survive if the average weight be the criterion. If, however, the same children be divided into those whose fathers earned less than £1 per week and those whose fathers earned £1 or more, then a very material difference is apparent.

	Father out of work or earning. less than £1.	Father earning £1 or more.
Mother employed in factory ...	17½lbs.	18¼lbs.
Employed at home or elsewhere ...	17¾lbs.	18¼lbs.
Total employed	17½lbs.	18¼lbs.
Not employed	17½lbs.	18½lbs.

It will be seen that in the homes where acute poverty exists there is a marked falling off in the average weight of the baby, whether the mother is industrially employed or not. The influence of poverty is still more strikingly seen in the following statement :—

Average Weight at Twelve Months old.

Illegitimate children	17¼lbs.
Father out of work	17¾lbs.
Father's wages under 15/-	17¾lbs.
,, ,, between 15/- and 25/-	18lbs.
,, ,, 25/- or more	19lbs.

The general conclusions to be drawn from another year's study of this question are much the same as those arrived at in 1908. It seems pretty certain that industrial employment has a bad effect on the infantile mortality, principally because it interferes with breast-feeding. For this reason employment in a factory is

more harmful than employment at home. But the influence of industrial employment is quite small when compared with the influence of acute poverty. It would seem therefore that in so far as the mother's employment reduces the acuteness of the poverty, it may even tend to improve the infant mortality. At any rate it is doubtful whether any further interference with the employment of married women would be at all beneficial as long as the acute poverty remains.

I remain,

Yours obediently,

JESSIE G. DUNCAN, M.B., Ch.B.